An Investigation of the Structure of CP and DP in Jingpo

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Abstract

The thesis highlights two desiderata. First, it seeks to establish the articulated structures for Jingpo clauses and noun phrases. Second, it aims to offer analyses for a number of grammatical constructions in Jingpo, using theoretical concepts and techniques of the Minimalist framework.

The C-system in Jingpo is delimited by two functional heads, Force and Fin. While the former is overtly realized as question markers *i* or *kun* in interrogative clauses, the latter provides a landing site for sentence final particles that move from T. In matrix clauses, a third functional head Evd can project, morphologically realized as evidential markers *da* or *nhten*. Many puzzling facts in Jingpo clausal domain are hence reducible to the interaction of feature checking at ForceP and EvdP, including the ordering constraint on evidential markers, the speaker- or hearer-oriented agreement marking, the agreement-shifting property of the imperative mood, and the person constraint on subjects. By so doing, the discourse related features are represented structurally and constrained by basic syntactic principles such as locality.

Likewise, the D-system in Jingpo is delimited by two functional projections, i.e. DP_{EXT}, marking [±specific], and DP_{INT}, marking [±definite]. The former can be overtly realized as the differential object marker *hpe*, indicating the reference of the noun phrase it attaches to has been established in the previous context. Being the structurally highest (and the linearly rightmost) projection of the nominal domain, it links its complement to a higher structure or discourse. The other head D_{INT} accommodates the singular indefinite marker *mi*, the plural definite marker *ni/-hte*, or the D-type demonstratives, and anchors the nominal reference in space. By constructing an articulated DP structure the free distribution of Jingpo adjectives and demonstratives can be well accounted for via a non-movement-based analysis.

論文提要

本論文旨在達成以下兩大目標：第一，結合製圖理論為景頗語的子句和名詞短語分別製作出立體結構圖；第二，為一些景頗語所特有的語法現象提供最簡方案的句法解釋。

景頗語的子句右緣結構可分解為至少兩個功能性投射，即標句詞短語(ForceP)和限定詞短語(FinP)。前者的核心詞多體現為疑問虛詞 i 或 kun，而後者的核心詞位置常填入從曲折層(IP)移位而來的句末助詞。在主句里這兩個功能性投射之間還有一個示證詞短語(EvdP)，其核心詞多體現為表引述據由的虛詞 da 或表認識情態的虛詞 nhten。本論文認為很多看似不相關的語法現象都可統一解釋為在不同的功能性投射層面上進行的特徵核查之間的相互作用。另外，本論文還探討了語用特徵和句法結構的關係，認為一些語用特徵可以在句法結構上表現出來，同時也可受句法原則的制約。

同理，景頗語的名詞短語結構也可分解為至少兩個功能性投射，即外部名詞短語(DP_{EXT})和內部名詞短語(DP_{INT})。前者的核心詞可體現為差別賓語標記 hpe，表示該賓語所指涉的名詞曾在上文中出現過，作為名詞短語中結構位置最高的投射，它的語法功能主要是將補語與更高一層結構或上下文聯繫起來；後者的核心詞位置可填入不定標記 mi，複數標記 ni/-hte，或功能性(D-type)指示代詞，它的語法功能主要是將名詞的指涉在空間中進行定位。本論文認為，這樣一個立體的名詞短語結構圖可以為景頗語中形容詞和指示代詞的自由分佈提供一個非移位的分析方法。

Dedication

To my parents, for raising me up at the first place and for everything else.

To my fiancé Peng, for being there for me through the good times and bad.

To all the Jingpo people who were physically or emotionally hit by the magnitude 5.8 earthquake on March 10, 2011. My heart has gone out to them ever since.

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phrases.

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List of Notations

1.	(x)	x is an optional element
2.	x/y	either x or y
3.	*(x)	the utterance will become acceptable if x is present
4.	(*x)	the utterance will become unacceptable if x is present
5.	~~x~~	x is a deleted copy of a moved element
6.	~~x~~	x is a deleted feature
7.	X	x is a focalized element
8.	*	the utterance following it is unacceptable
9.	?	the utterance following it is unnatural
10.	??	the utterance following it is marginal
11.	x:y	x and y are two grammatical morphemes that are fused together
12.	x-y	x and y are two grammatical morphemes that are agglutinated together
13.	x|y	x is a portmanteau form encoding a series of grammatical functions unfolded in y
14.	x.y	x and y have one single grammatical function described from different perspectives
15.	x[y]	x is a portmanteau form that agrees with y in terms of φ-features

List of Abbreviations

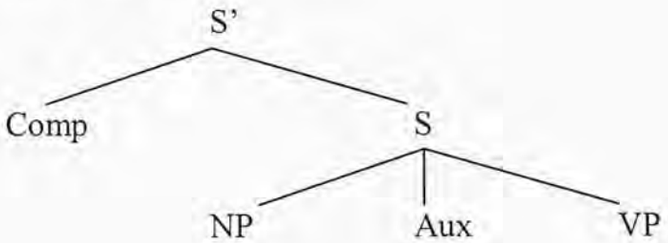
1/2/3	first/second/third person
ABS	Absolutive
ACC	Accusative
APPL	applicative
ART	article
ASP	aspect
AUX	auxiliary
CL	classifier
COMP	complementizer
CONJ	conjecture
CONS	consultative
COP	copular
COS	change of state
DAT	dative
DECL	declarative
DEF	definite
DEM	demonstrative
DEN	deontic
DES	desiderative
DET	determiner
DIM	diminutive
DIST	distal
DL	dual
EMP	emphatic
EPS	epistemic
ERG	Ergative
EVD	evidentiality
EXC	exclusive
EXCL	exclamative
FEM	feminine
FOC	focus
FUT	future
GEN	Genitive
GIC	generic
IMP	imperative
IMPF	imperfective
INC	inchoative
INCL	inclusive
INDEF	indefinite
INFIN	infinitive
LV	light verb
MASC	masculine
MOD	modal
NEG	negative
NOM	Nominative
OBJ	object
OM	object marker
PERF	perfective
PL	plural
POSS	possessor
PRES	present
PRM	promissive
PROX	proximal
PRS	presumptive
PRT	particle
PUNC	punctual
Q	interrogative
QOT	quotative
RED	reduplication
SFP	sentence final particle
SG	singular
SJ	subjunctive
SM	subject marker
SPF	specificity marker
SUBJ	subject
TOP	topic
UNQ	universal quantifier

Chapter 1 Introduction

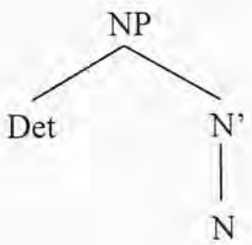
1.1 Background and major claims

An important issue in the investigation of clauses and noun phrases concerns the functional structure they entail. Traditionally, clauses were taken to be S or S' and noun phrases were taken to be the maximal projections of N (Jackendoff 1977, *inter alia*), as depicted below.

(1) a.



b.



The theoretical developments in 1980s have called the above structures into question, and led syntacticians to argue that the non-lexical categories should also fit into the X-bar schema (Chomsky 1970). Thus clauses and noun phrases have been taken to have the status of CP and DP, the extended projections of VPs and NPs, respectively, as depicted below.

(2) a. $[_{CP}[\ldots[_{VP}]]]$

b. $[_{DP}[\ldots[_{NP}]]]$

The growing interest in the clausal and nominal systems and the extension of the X-bar schema to the non-lexical categories have enhanced linguists' understanding of the internal structures of clauses and noun phrases, and thereby led them to elaborate more articulated syntactic representations for both structures (Cinque 1994, 1999, *inter alia*).

In the thesis I undertake a detailed investigation of the clause structure and the noun phrase structure in Jingpo from a cartographic perspective (Cinque and Rizzi 2009, *inter alia*). It aims at revealing that Jingpo CPs can be decomposed into a series of verbal functional categories and a verb, and that Jingpo DPs can be decomposed into a series of nominal functional categories and a noun. By so doing many problems which have long constituted as puzzles in Jingpo can be accounted for.

The major claims I am making in the thesis can be summarized in a simplified fashion as follows:

i The interrogative marker *i/kun*, the evidential marker *da/nhten*, and the SFPs manifest the functional heads Force, Evd, and Fin in the CP-domain and exhibit a fixed ordering. This fact constitutes strong evidence for Rizzi's (1997) Split-CP hypothesis. Between the two views of visualizing the functional make-up of the clause periphery, namely, Cinque's (1999) hierarchy of nearly forty functional heads and Tenny's (2000) proposal of six semantic zones, the Jingpo data favor the former. Cinque's (1999) hierarchy of functional heads is not a mere coincidence, but theoretically accountable. It is possible to cast it in a feature checking theory. The same analysis can be extended to many other intriguing phenomena in Jingpo.

ii The D-system in Jingpo is delimited by two functional heads, i.e. D_{EXT}, marking [±specific], and D_{INT}, marking [±definite]. The singular indefinite marker *mi*, the plural definite marker *ni/-hte*, or the D-type demonstratives are various lexical manifestations of D_{INT}. The differential object marker *hpe*, on the other hand, manifests the highest functional head D_{EXT}. The multiple occurrences of demonstratives also call for an articulated structure

of Jingpo noun phrases. Two functional projections are needed to accommodate the D-type demonstratives and the A-type demonstratives, respectively. The co-occurrence restriction on demonstratives of the same type is attributed to the parameter setting of Jingpo.

iii The close morphological and semantic relations between preverbal adverbials and postverbal auxiliaries, and between prenominal and postnominal adjectives constitute empirical support for Cinque's (1994, 1999) hypothesis that modifiers occupy the specifier positions of corresponding functional projections.

The thesis is not intended as a consummate study of the aspects discussed, but rather as a snapshot of a larger scale research. Some of the syntactic issues presented in this work should be further explored and elaborated. I hope that the thesis will initiate a solid empirical coverage and shed some light on further approach to the Jingpo syntax and also contribute to the lively discussion of the syntax of CP and DP.

1.2 Overview of the thesis

The thesis is organized as follows. Chapter 2 gives the theoretical background to pave the way for further discussion. I present the specific Minimalist assumptions that I adopt throughout the thesis, including the Minimalist design of the cognitive system, the approach to morphology that distribute different groups of features to various modules of grammar, the economy principle of both derivations and representations, and the feature checking mechanism. Besides the theoretical framework, I also introduce the syntactic assumptions that are relevant to the ensuing discussion. I assume that clauses and noun phrases are the extended functional projections of the lexical categories verbs and nouns and hence should be

enclosed within the functional projections CP and DP respectively. Moreover, I adopt the cartographic approach whereby these two functional projections are decomposed into a set of subprojections, each corresponding to a distinct yet related grammatical function, and providing a separate specifier position as the landing site of A'-movement.

Chapter 3 introduces the typological background of Jingpo, the language in question. First I provide relevant data to show that Jingpo is a typical head-final language in both its clausal and nominal domains. I also demonstrate that the language currently shares the morphological properties of three different language types. Furthermore, I give a brief discussion of the *pro* drop phenomenon in Jingpo and argue that the language exhibits mixed properties commonly found in both the agreement-based *pro* drop languages and the radical *pro* drop languages. In addition to the typological background, I review and evaluate the Generative Grammar attempts in the literature on the syntax of Jingpo noun phrases. The noun phrases in Jingpo exhibit a fixed word order, i.e. N-Cl-Num sequence. Since its classifier system is still under development, the language currently makes use of two ways to partition nouns, namely, the classifier strategy and the N-to-Cl movement strategy. Though Jingpo allows bare nouns to occur in argumental positions, two elements have been reported to mark definiteness along with other grammatical functions: the singular indefinite marker *mi* and the plural definite marker *ni/-hte*. Finally I discuss the free distribution of adjectives and demonstratives. Recent studies on Jingpo noun phrase structure have revealed that there are constraints on the placement of adjectives and demonstratives, indicating that they are not as freely merged as previously thought.

Chapter 4 presents the clause structure of Jingpo. I focus on the C-system of Jingpo clauses, starting from the elements at the rightmost periphery, namely evidential markers and discourse particles. I argue that they head different functional projections in the CP domain. Then I turn to another intriguing property in Jingpo clause periphery, i.e. the use of SFPs. After scrutinizing all of their grammatical functions, I propose that they are base-generated at T and then move to the lowest head in the CP domain, i.e. Fin. I demonstrate that between the two views of visualizing the functional make-up of the clause periphery, namely, Cinque's (1999) hierarchy of nearly forty functional heads and Tenny's (2000) proposal of six semantic zones, the Jingpo data favor the former as the latter cannot account for the fact that functional heads from the same semantic zone also exhibit fixed ordering. I also demonstrate that Jingpo is not unique among world's languages in terms of the number of sentence types that get grammaticalized. The three functional sentence moods, namely imperatives, consultatives, and promissives, are shown to fall into one formal sentence type. Finally I discuss the striking asymmetry between matrix clauses and embedded clauses in Jingpo in terms of the inventory of SFPs.

Chapter 5 demonstrates that by constructing an articulated CP structure many seeming unrelated puzzles can be uniformed with a feature checking account. I discuss how different clause edge particles manifest the Jingpo functional heads in the CP-domain, and propose a feature checking analysis to account for various phenomena in Jingpo, including the ordering constraint between different evidential markers, the speaker- or hearer-oriented agreement marking, the agreement-shifting property across clause types, and the constraint of the person feature marking on subjects. I demonstrate how these seemingly unrelated aspects of Jingpo grammar can be reduced to the morphosyntactic features associated with different projections

and be captured under a unified feature checking account. In particular, I show why no specific treatment for particular constructions is needed to account for the correlation between pragmatic roles and the clause edge particles at the right periphery in the language. The analysis shows that Cinque's (1999) hierarchy of functional heads is not a mere coincidence, but theoretically accountable, and that the pragmatic information can be represented syntactically as discourse-related features, mapped onto different functional projections of the CP domain, and constrained by basic syntactic principles.

Chapter 6 extends the cartographic approach to other domains. First it shows that there are close morphological and semantic relations between preverbal adverbials and postverbal auxiliaries, and between prenominal and postnominal adjectives. This fact constitutes empirical support for Cinque's (1994, 1999) hypothesis that modifiers occupy the specifier positions of corresponding functional projections. I also investigate the multiple occurrences of different types of Jingpo demonstratives and suggest that two functional projections are needed to accommodate D-type and A-type demonstratives, respectively. The co-occurrence restriction on demonstratives of the same type is attributed to the parameter setting of Jingpo whereby the head position and the specifier position of the same functional projection cannot be filled at the same time. Finally I demonstrate that the D-system in Jingpo can be delimited by two functional heads, i.e. D_{EXT}, marking [±specific], and D_{INT}, marking [±definite]. In addition to the D-type demonstratives, I argue that the singular or plural marker which determines the definiteness of the noun phrase also heads the lowest functional projection DP_{INT} in the D-system. On the other hand, the differential object marker *hpe* checks the specificity feature and heads DP_{EXT}, the highest projection of DP, relating its complement to a higher

structure or the discourse.

1.3 A note on data collection

Before turning to the main body of the thesis, a note on methodology is in order. Jingpo, like other minority languages in China, faces the possibility of being influenced by the official language Mandarin Chinese. Moreover, since it has been undergoing a radical evolutionary change and is in the middle of an agglutinating language and an analytic language at the current stage, Jingpo shows mixed morphological properties in various constructions. Nevertheless, I consider the data provided in the thesis as robust.

There are two main sources of Jingpo data used in the thesis. Part of them comes from previous publications such as Jingpo grammar books, dictionaries, textbooks or journal papers, with their references being clearly specified,[1] and the others were collected from two native speakers, named Mala Yue (a 45-year-old male) and Bokmai Lama (a 24-year-old female). Two rounds of fieldwork for this study were conducted in Luxi, Dehong Dai-Jingpo Autonomous Prefecture of Yunnan Province, China. The methodology used in the fieldwork was language elicitation, grammaticality judgment, and storytelling (see Appendix for the transcript of A Pear Story). The whole process has been tape-recorded. All the data reported in the thesis have been further checked on numerous occasions over the past three years. They all exhibit a high degree of intra-speaker reliability.

[1] Note that the glosses and the translations of each of the cited examples in Jingpo have been double checked with the native speakers. Some of them are slightly modified for the purpose of precision, hence are different from the original texts in Chinese.

Chapter 2 Theoretical Background

2.1 Introduction

In this chapter, I turn to the introduction of the theoretical background, starting from the Minimalist framework (Section 2.2) in which the analyses in subsequent chapters of the thesis are framed. Though the presentation is not intended as a comprehensive overview of the framework, the current diversity of approaches to Minimalism necessitates a clarification of the specific assumptions adopted in the thesis. Readers may refer to the works cited for details.

Aside from the framework, I also review the Generative literature on the clausal and nominal architectures (Section 2.3). More specifically, I introduce the proposals that the lexical projections VP and NP are wrapped up by functional projections CP and DP respectively, as well as the cartographic approach that argues for an articulated structure of both clauses and noun phrases.

2.2 Minimalism

This study adopts the ideas of Minimalist program (henceforth MP), the latest development of the Principles-and-Parameters (henceforth P&P) approach in Generative Grammar, initiated by Chomsky (1995a, 1995b) and refined in his subsequent works (Chomsky 2000, 2001, 2004, 2005, 2007, 2008). The earlier P&P model gave a lot of weight to the faculty of language (henceforth FL), an innate device in the human mind that is dedicated to language, and assumed it to be complex enough to make child language acquisition possible. However, Chomsky noticed that FL, along with other human intellectual capacities, was not emerged until very recently. In this sense, "the more varied and intricate the conditions specific to language, the less hope there is for a reasonable account of the

evolutionary origins of UG"[2] (Chomsky 2005:8). Thus he has launched MP and added more weight than its predecessors do to the third factor (1c) among all three interactive factors in language design, as quoted below (Chomsky 2005:1).

(1) Three factors that interact to determine I-languages attained
    a. genetic endowment (aka UG)
    b. experience (aka primary language data, henceforth PLD)
    c. principles that are language- or even organism-independent

In the Minimalist view, both UG (1a) and PLD (1b) are considered as small and simple compared to the third factor (1c), i.e. the external conditions that are shared by other human intellectual capacities. This factor falls into two types, namely, (i) "principles of data analysis" and (ii) "principles of efficient computation" (Chomsky 2005:6). According to Huang (2011), the latter includes principles like Inclusiveness Condition, No-Tampering Condition, Minimality, and Full Interpretation.

Out of the general considerations of conceptual naturalness and computational efficiency, namely, simplicity, economy, symmetry, non-redundancy[3] (Chomsky 1995a:1), MP explicitly claims that the computational system (henceforth C_{HL}) central to human language is a "perfect" solution to the task of relating sound and meaning and that a system involving only conceptually necessary components

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[2] UG is the abbreviation of universal grammar, which constitutes the initial state of FL and contains both the language-invariant principles and the parameters with binary values (Chomsky 1995a).

[3] Chomsky also admits that since language is a biological system redundancy is in fact an inevitable property of FL (Chomsky 1995a:29). Biological systems are redundant, as we all know. But we have to ask the question in what way this is so. As Li (1997) points out, there are two kidneys in each human body. Both are well designed and perform almost the same functions. Strictly speaking, one kidney is sufficient for each human being. But the apparent redundancy makes it possible to compensate for injury and defect. The same question can be asked about the language system. It may be useful to have two different ways of computing the same function but it may not be as useful to have two different functions to generate the same set (Nobert Hornstein p.c.). Hence it is a tough question whether FL allows redundancy or not. But generally speaking redundancy is not good for theorization, as pointed out by Chomsky (1995a:19), "any serious approach to complex phenomena involves innumerable idealizations".

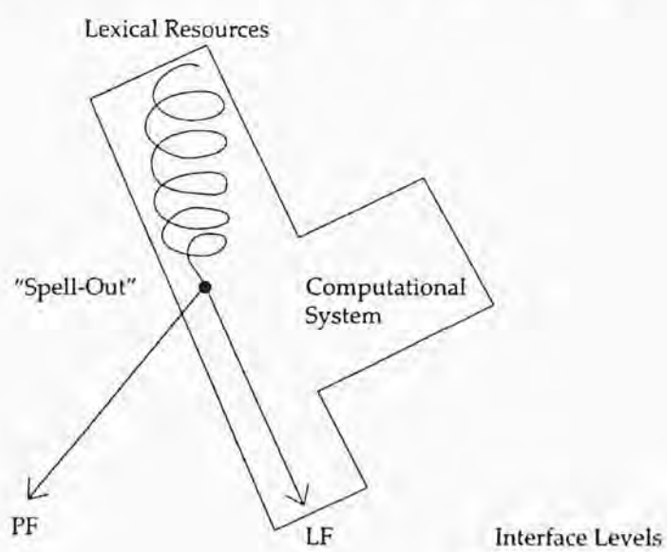
would be considered as "perfect".

In the following subsections, first I introduce the way these components are organized within the MP framework, and then I turn my focus on a Minimalist solution to the traditional notion "lexicon", named Distributed Morphology (henceforth DM), whereby lexical items are decomposed into smaller units and distributed before and after C_{HL}. I will demonstrate in the later chapters that DM can be well applied to languages with mixed morphological properties such as Jingpo. As noted, MP distinguishes between purely grammatical phenomena (1a) and those grammatical phenomena that draw information from interfaces (1c). Accordingly UG principles fall into formal and substantive principles, both of which are constrained by the economy principle, to be introduced in Section 2.2.3. By the end of the section I discuss the feature checking technique which is adopted throughout the thesis.

2.2.1 Levels of representation

One of the assumptions shared by MP and its predecessors is that FL has at least two components: a cognitive system and performance systems. The diagram below illustrates the design of the cognitive system.

(2) The Minimalist design of the cognitive system (Marantz 1995:357)



Items drawn from the "lexicon"[4] are inserted into C_{HL}, where they form derivations in the format of the X-bar schema (Chomsky 1970) via a general syntactic operation Merge. For the computation to be as efficient as possible, Chomsky assumes a third-factor principle which requires Merge to be the simplest possibility, as quoted below.

(3) No-Tampering Condition (Chomsky 2008:138)
Merge of X and Y leaves the two syntactic objects unchanged.

This condition renders Merge as a costless operation at C_{HL}.

Note that the lexical resources are not directly inserted to C_{HL}; rather, there is a stage called Numeration mediating the "lexicon" and C_{HL}, which contains multiple sets of categorized items randomly chosen from the "lexicon". It can be regarded as a list of pairs (LI, *i*) where LI stands for the lexical item and *i* represents how many times this item can be used in the derivation. C_{HL} selects a lexical item from the lists each time and reduces its index *i* by 1. For instance, a Numeration like (4a) can generate a sentence like (4b).

(4) a. Numeration: (the, 2), (man, 1), (loves, 1), (woman, 1)
b. *The man loves the woman.*

The idea here is that Numeration feeds C_{HL} with LIs so that C_{HL} can serve as a random generator of structures. Its outputs are ruled in or ruled out later by interface conditions.

The computations in (2) are split at a point known as Spell-Out, after which the syntactic object forms two structural representations, one at Logical Form (henceforth LF) and the other at Phonetic Form (henceforth PF). LF and PF constitute the two external interface levels and form the contact between the grammar and the performance systems: at the one end the Conceptual-intentional

[4] In next section I follow the basic assumptions of DM (e.g. Halle and Marantz 1993, 1994, Marantz 1997, Harley and Noyer 2003, *inter alia*) and argue that there is no such thing as "lexicon" and that the tasks traditionally considered to be performed by the "lexicon" are distributed among different modules of grammar.

(C-I) system and at the other the Articulatory-perceptual (A-P) system.

To ensure that the mapping from Numeration to LF and PF obeys the spirit of Minimalism, Chomsky assumes another third-factor principle, as quoted below.

(5) Inclusiveness Condition (Chomsky 2000:113)
No new features are introduced by C_{HL}.

This condition basically renders C_{HL} as a "dummy machine" (Kleanthes Grohmann p.c.) where only rearrangements of lexical items, but nothing more, is permissible.

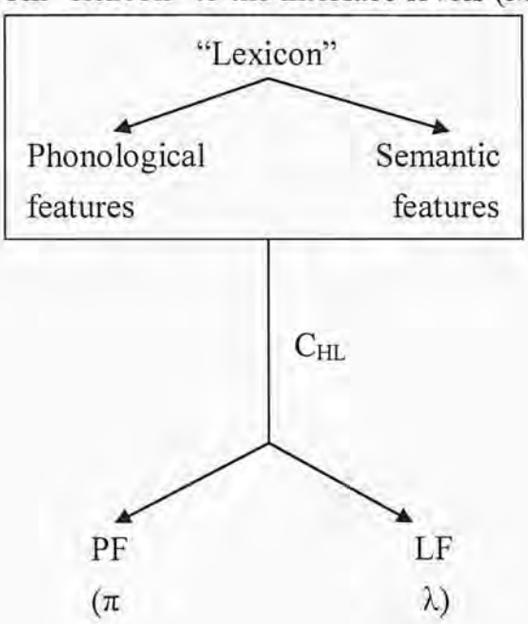
2.2.2 Distributed morphology

It has been generally assumed that there are four groups of features related to a lexical item, namely, phonological features, semantic features, syntactic features and morphological features. Chomsky (1995a) claims that the "lexicon" is where the idiosyncrasies come from. As the sound-meaning relation is arbitrary, the phonological and semantic features of a vocabulary item are not predictable. They should be included in the "lexicon". The syntactic features (aka the categorial features) which specify whether a vocabulary item is a noun, verb, etc, are also assumed to be listed in the "lexicon" as they cannot be predicted by or derived from general principles or other properties. The morphological features, i.e. Case and φ-features of nouns and tense features of verbs, according to Chomsky (1995a), are arbitrarily added when a noun is sent from the "lexicon" to the Numeration. Consequently, in the Lexicalist theory, all the four groups of features should be included in the "lexicon" as they are neither predictable nor derivable.

Though endorsing the above view about the unpredictability and underivability of the four groups of features related to a lexical item, DM considers the Lexicalist position too strong to be true. Take the phonological and semantic features as an illustration. Lexicalism claims that they both are included in the "lexicon" and help yield the PF and LF representations respectively, roughly

diagrammed as follows.

(6) The mapping from "lexicon" to the interface levels (Marantz 1997:202)



Given the Inclusiveness Condition (5) that no new features can be added to a syntactic object at C_{HL}, the diagram in (6) wrongly predicts that the mapping from the "lexicon" to the pair of representation (π, λ), with π as the PF representation and λ the LF representation, is isomorphous. Such a strong claim cannot be held in inflectional languages where sound and meaning are not always in one-to-one correspondence.[5]

Departing from Lexicalism, DM on the other hand argues that there is no such thing as "lexicon" and that the features traditionally argued to be in the "lexicon" are distributed among different modules of the grammar, sketched as in (7) below (Harley and Noyer 2003:465).[6]

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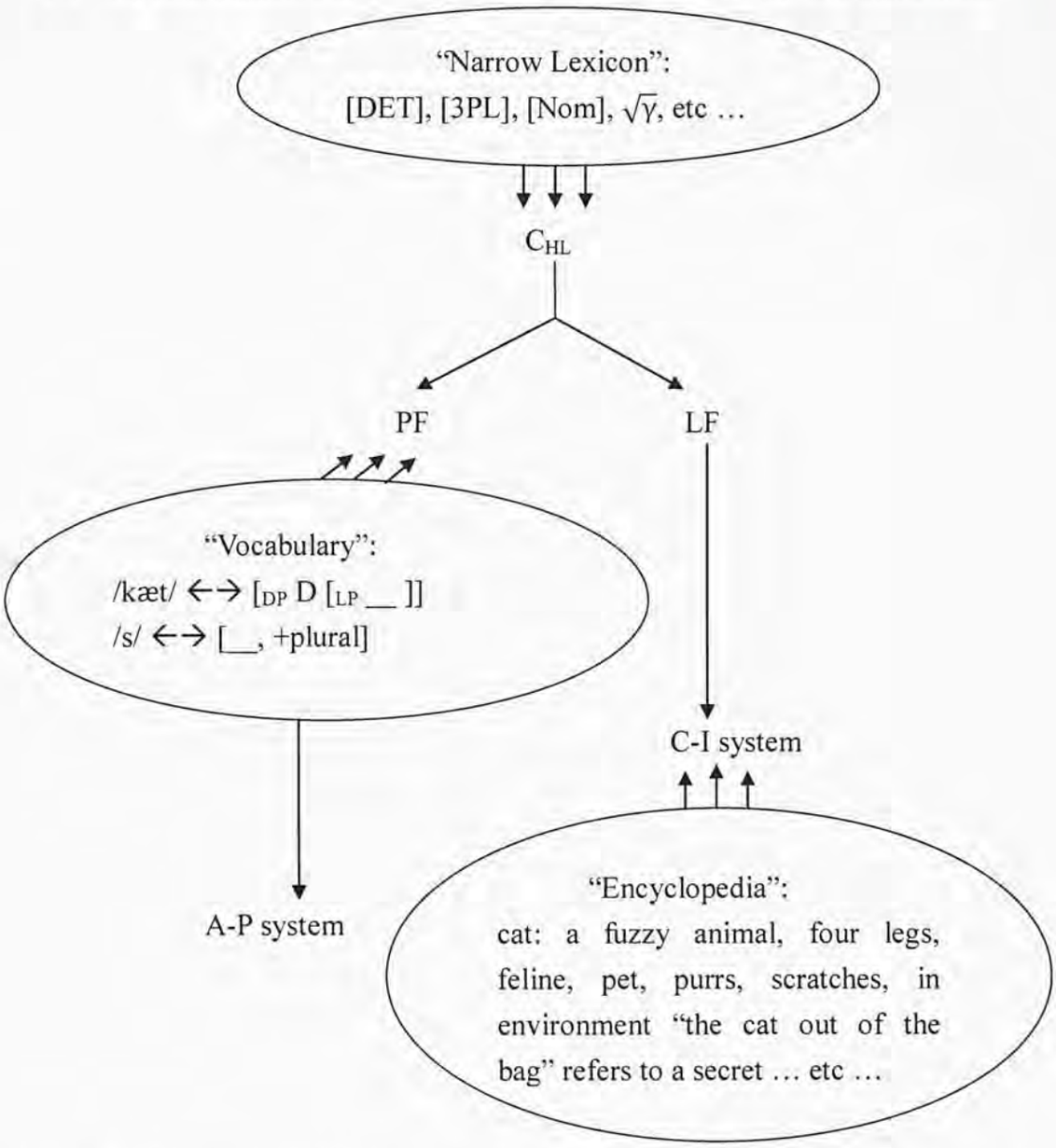
[5] Interested readers may refer to Marantz (1997) for all the arguments against the Lexicalist theory and for the motivation of DM as well.

[6] It is worth noting that the term "Narrow Lexicon" in (7) should be radically distinguished from the notion "lexicon" in the Lexicalist Theory. The latter, according to Marantz (1997), only contains roots and morphological features.

(7) The distribution of different groups of features within the DM framework



Among the four groups of features mentioned earlier, the morphological features are inserted before C_{HL}. The insertion of the phonological features is delayed until after syntax, in particular, at the PF level. The pieces that are manipulated by the syntactic operations at C_{HL} are just abstract features, no phonological content at all.[7] On the

[7] Despite of the basic assumption of DM that only morphological features are manipulated by the syntactic operations at C_{HL}, throughout the thesis I still make use of the actual words (italicized) for the ease of illustration purpose. However, it is worth repeating that the italicized items are not the syntactic objects computed at C_{HL}. The real syntactic objects are the abstract morphological features of the italicized items.

other hand, since LF is merely a level of representation that exhibits certain meaning-related structural relations, such as quantifier scope (Marantz 1995), and does not express or represent meaning, the semantic features should not be inserted at this level. Rather, they are extralinguistic and are inserted at the C-I system as they have to make reference to speakers' world knowledge.

One consequence of DM is that the categorial features play no role in the grammar and hence are not encoded in lexical items. Harley and Noyer (2003) distinguish two basic types of morphemes, namely f(unctional)-morphemes and l(exical)-morphemes, roughly corresponding to functional and lexical categories. According to DM, l-morphemes are acategorial in syntax and their categorial labels are determined by the environment they occur in. On the other hand, since f-morphemes have the category defining property, they determine the category of the l-morphemes they are in local relations with (Marantz 1997). When the l-morpheme is put in a nominal environment, the result is a noun; when it is put in a verbal environment, the result is a verb. This can be evidenced by the fact that in languages with little overt morphology such as Chinese, the nominal and verbal counterparts of the same l-morpheme usually take the same form.

(8) a. *Zhangsan fanyi-le yi-bu xiaoshuo.* – Chinese
Zhangsan translate-PERF one-CL novel
'Zhangsan translated a novel.' (Huang, Li and Li 2009:11)

b. *Zhangsan dui yi-bu xiaoshuo de fanyi* – Chinese
Zhangsan on one-CL novel of translation
'Zhangsan's translation of a novel' (Huang, Li and Li 2009:11)

As shown in (8), the Chinese word *fanyi* 'translate/translation' can be either a verb (8a) or a noun (8b) depending on the environment it occurs in. The distinction between the category-defining f-morphemes and the category-neutral l-morphemes will be further illustrated in different parts of the thesis.

2.2.3 *Economy as the guiding principle*

As noted, the perfect design of language system requires the general considerations of conceptual naturalness. Economy is one of these considerations. Within the MP framework, derivations and representations are required to be economical in a sense to be discussed shortly.

In his recent works, Chomsky (2001, 2007, 2008) applies the notion "phase" to account for the locality requirement of syntactic derivations. According to this view, the derivation sent to the interface levels is unnecessarily a complete one. Rather, sentences are derived in phases and assembled at the interfaces to yield a single output. Under the framework of DM, at each phase the abstract morphemes are associated with the phonological pieces. Phases are propositional elements, such as vP (i.e. proposition at the lexical level) and CP (i.e. proposition at the clause level), with v and C being the phase heads.[8] When a phase is complete and sent to the interface levels, the complement of the phase head is cut off and not accessible to further syntactic operation any more. The condition in question, known as the

[8]The general consensus of opinion in the current theory is that v and C are not the only phase heads available in the framework. Given that nominal phrases have similar structures as verbal phrases, many linguists proposed that there are corresponding phase heads in the nominal domain. Though what should be considered as the nominal phase heads still remains controversial, some linguists (e.g. Jan-Wouter Zwart p.c., Biberauer, Holmberg and Roberts to appear) took D as the external phase head in noun phrases. Chomsky (2007), on the other hand, rejects this view. Rather, he proposes that the DP is itself a complement of a phase head n, analogous to v in the clausal domain. In the thesis following Hiraiwa (2005) I take a less strict view on this issue and consider both D and n as phase heads in noun phrases, the nominal counterparts of the phase heads C and v in the clausal domain. Such treatment not only has theoretical advantages, i.e. it nicely uniforms nominal and clausal structures, but also has empirical support. Chomsky (2007) claims that the complement of n, i.e. a category-neutral root, gains its nominal properties from n whereas D inherits the features of n and hence does not affect the category of the undifferentiated root. However, I find that the D head in Jingpo can assign nominal category to its complement and thereby results in a heterogeneous structure. In this case D has the same grammatical function as n.

Phase Impenetrability Condition (henceforth PIC), is given as follows:

(9) Phase Impenetrability Condition (Chomsky 2001:14)
In a phase α with head H, the domain of H is not accessible to operations outside α; only H and its edge are accessible to such operations.

Following PIC, only elements in the phase edge (i.e. the phase head plus its specifier) can be moved out of the phase whereas the phase complement is no longer visible at C_{HL} once the phase is complete. This condition can capture the unacceptability of the A-movement in (10a) and the A'-movement in (10b) below.

(10)a. **John seems* [$_{CP}$ *it is likely* [$_{IP}$ ~~*John*~~ *to read the book*]].
b. **Which book do you wonder* [$_{CP}$ *whether he read* ~~*which book*~~]?

In (10a) the embedded subject *John*, in order to move to the matrix clause, must go to the edge of the lower CP phase first, i.e. the embedded [Spec, CP] position. However, this position is occupied by the expletive *it* due to the EPP requirement of the finite auxiliary *is*, hence unavailable to *John*. *John* remains in the lowest vP phase and is invisible to everything outside. Thus the sentence is unacceptable. The same is true of the illicit movement in (10b). PIC requires the *wh*-word *which book* get to the phase edge of the lower CP before it moves any further. However, the embedded [Spec, CP] position is occupied by another *wh*-word *whether*. Thus the movement is blocked.

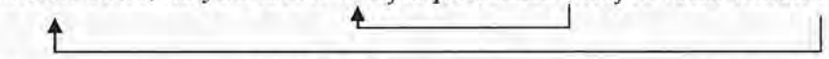
So far we have seen that derivations must be as economical as possible. The representations, on the other hand, are argued to abide by the economy principle as well. In the Minimalist view, everything sent to Spell-Out is constrained by the Full Interpretation Principle (henceforth FI), defined as follows.

(11)Principle of Full Interpretation (Chomsky 1986a:98)
Every element of PF and LF, taken to be the interface of syntax with systems of language use, must receive an appropriate interpretation – must be licensed in the sense indicated.

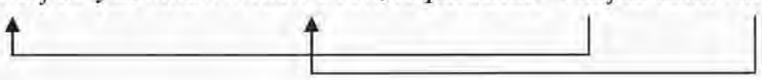
Take a pair of representation (π, λ) as an example, with π as the PF representation and λ the LF representation. FI requires both π and λ be properly licensed in order to be spelt out.

The universal property of strong binding (Chomsky 1995a:56) is a result of practicing FI at LF which requires every variable be licensed by certain operator or antecedent in order to be unequivocally interpreted. To put it simply, the moved element must bind its original position. Consider the following examples (Takita, Fuji and Yang 2007):

(12)a. ??*which book*$_i$ *do you know who*$_j$ *to persuade* ~~*who*$_j$~~ *to read* ~~*which book*$_i$~~*?*



b. **who*$_j$ *do you know which book*$_i$ *to persuade* ~~*who*$_j$~~ *to read* ~~*which book*$_i$~~*?*



The reason that (12b) is worse than (12a) is because the former shows the crossing effect. That is to say, in (12b) the chain headed by *which book* crosses the chain headed by *who*. In (12a), on the other hand, *who* is moved to the embedded [Spec, CP] position and *which book* is moved to the matrix [Spec, CP] position. Though the movement of *which book* skips *who*, violating PIC, it is still better than (12b) as one of the *wh*-words, i.e. *who*, properly binds its lower copy. In contrast, neither *who* nor *which book* correctly binds their lower copies in (12b). The binding of the copy of *which book* is intervened by the copy of *who*, and the binding of the copy of *who* is intervened by the copy of *which book*. Thus the violation of FI in (12b) is more serious than that in (12a).

To summarize this section, given the Strong Minimalist Thesis (henceforth SMT) in (13) below, the desiderata of the Minimalist agenda is to (i) reduce the formal properties to the economy principle of derivations, such as PIC, and to (ii) reduce the substantive properties to the economy principle of representations, such

as FI.

(13) Strong Minimalist Thesis (Chomsky 2000:96)

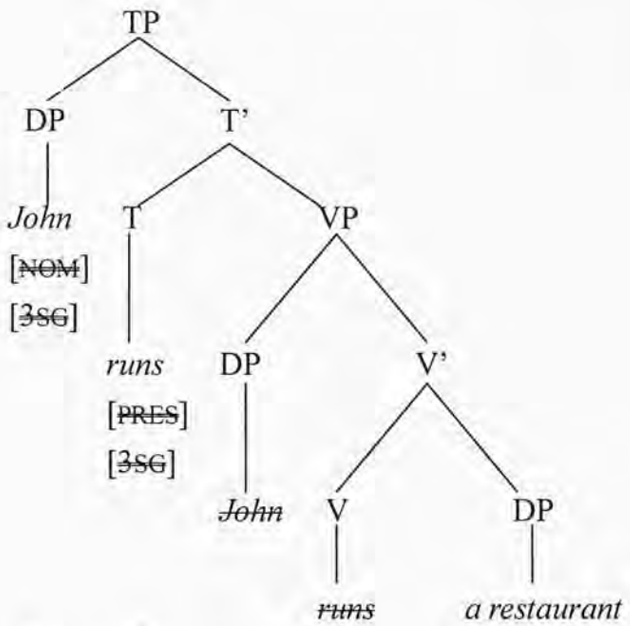
Language is an optimal solution to legibility conditions.

Hence each language system is optimal in the sense that there are no superfluous steps on derivations or superfluous symbols on representations (Chomsky 1995a), and the system allows only the legible outputs. Note that economy is another third-factor principle universal to all kinds of cognitive systems, not just unique to FL.

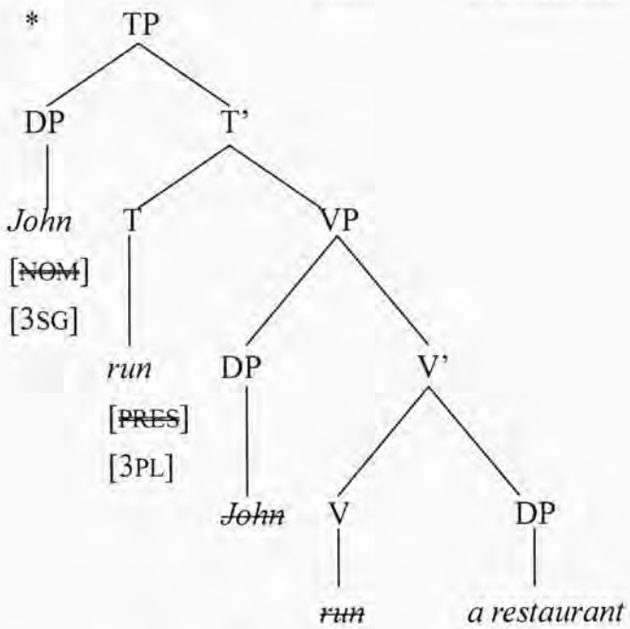
2.2.4 The feature checking operation

Recall the discussion in Section 2.2.2, while the phonological features are inserted and interpretable at PF and the semantic features are inserted at the C-I system and consequently produce no effect on the interpretation at LF, the morphological features which are inserted before the computation can never be interpreted at the interface levels. They must be checked and then deleted by the end of the syntactic derivation. In other words, feature checking is triggered by the need to eliminate the uninterpretable features from the computation. Here the term is defined as matching or pairing between certain features, accompanied by overt or covert movement. There are two types of structural relations. The morphological features can be checked with each other either under the head-adjunction relation or under the spec-hand configuration, as roughly diagrammed below.

(14)a.



b.



In (14a) the verb *runs* moves upwards and adjoins to T in order to have its tense feature [PRES] checked under head-adjunction relation. The DP *John*, on the other hand, moves to [Spec, TP] in order to have its φ-features [3SG] checked against the inflectional category T under spec-head configuration. The inflectional category T, in return checks the Nominative Case feature of the DP *John*. Once a feature has been checked, it gets deleted and no longer survives into the interface representations. The derivation containing no morphological features thus converges at LF. In contrast, the φ-features [3SG] of the DP *John* in (14b) cannot be checked

against the φ-features [3PL] of the inflectional category T. As a result, they cannot be deleted prior to Spell-Out and the whole derivation hence crashes at LF.

Feature checking is also constrained by the economy principle of derivations, such as PIC. Consider the examples in (15) below:

(15)a. *[$_{CP}$ *It seems* [$_{CP}$ *that John to get a pay rise.*]]

b. [$_{CP}$ *It seems* [$_{CP}$ *that John got a pay rise.*]]

The Case feature of the DP *John* in (15a) cannot be checked within the infinitive clause as the embedded T is uninflectional. Thus it is undeletable by the end of the computation. But as an uninterpretable morphological feature, its existence after Spell-Out definitely offends FI. Hence the sentence is unacceptable. In contrast, the embedded subject *John* in (15b) can have its Case feature checked against the finite head T within the complement clause and then have it deleted by the end of the computation. The sentence (15b) is thus grammatical as it correctly observes PIC.

As for the deletion of morphological features, there are two different views. Bowers (2002) claims that once the Case feature of a category has been checked, it is frozen in place and no longer enters into other checking relations. On the other hand, Pesetsky and Torrego (2001) make use of the notion of "phase" and argue that under some circumstances the lifespan of a feature marked for deletion can be longer. In particular, a feature may remain alive for a while till the end of the phase. In the thesis I adopt the latter view and assume that the derivational step "phases" play an important role in feature checking.

2.3 Theoretical assumptions

So far I have reviewed the specific assumptions of the Minimalist framework which I adopt throughout the thesis. In next subsection I introduce several works in the Generative literature that recognize C and D as functional categories heading

their own projections and the hypotheses that CPs and DPs are extended functional projections of verbs and nouns respectively. I also introduce the idea that the functional projections CP and DP can be further decomposed into a set of subprojections, each corresponding to a single feature specification, generally known in the literature as the cartographic approach.

2.3.1 The syntax of extended projections

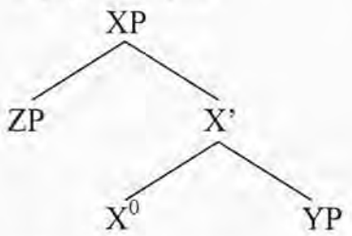
Ever since the 1970s, syntactic objects have been argued to be derived in the format of the X-bar convention (16), schematically represented below in (17):

(16) The X-bar convention (Chomsky 1970:210)

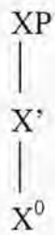
a. X' → X ...

b. X'' → [Spec, X'] X'

(17) a.



b.



The phrase in (17a) is a typical maximal projection structured in the X-bar schema (16) whereas the one in (17b) is directly projected from a head without merging with any complement or specifier. The defining characteristic of the X-bar theory (Chomsky 1970) is that it requires each phrase to be endocentric. Hence each phrase can have one and only one head. A phrase may contain just a head, like in (17b), or it may also contain complements or specifiers, like in (17a). Underpinned by Chomsky's (1970) X-bar theory that crosscategorial symmetries can be well captured by the uniform schema, various hypotheses have been proposed in the literature to extend the same schema to "minor" syntactic categories such as complementizers (C) and determiners (D).

2.3.1.1 Projecting CP

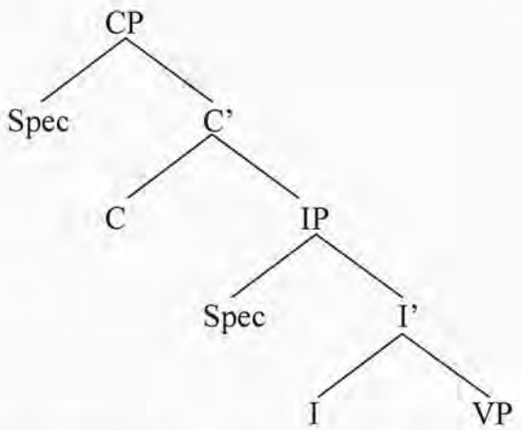
Since the work of Stowell (1981), clauses have been taken to have the status of CP. Stowell noticed that some features of C might be so fundamental that they serve to characterize other categories. It has long been recognized in the literature (Bresnan 1972, *inter alia*) that verbs can subcategorize for different types of clausal complements. Some verbs allow either declarative or interrogative clausal complements (18), while others allow just one (19) or the other (20).

(18)a. *I forgot* [*that there's a speed limit here*].
b. *I forgot* [*if there's a speed limit here*].
(19)a. *I think* [*that there's a speed limit here*].
b.**I think* [*if there's a speed limit here*].
(20)a.**I wonder* [*that there's a speed limit here*].
b. *I wonder* [*if there's a speed limit here*].

Stowell argues that the distinctions among various types of clausal complements are best reflected in the choice of complementizers, which constitutes a piece of evidence in favor of the headedness of clauses.

Chomsky (1986b) further points out that treating C as the head of clauses has both empirical and conceptual advantages. Empirically, by treating C as an X^0 category that heads its own projection, it is possible to move the *wh*-elements to a position other than C, i.e. the [Spec CP] position. By so doing, various crosslinguistic facts can be well accounted for, such as the verb-second phenomenon found in many Germanic languages, the co-occurrence between the preposed *wh*-element and the complementizer, and the fact that in some languages *wh*-movement is to the left even if the complementizer is on the right. Conceptually, the clauses (traditionally labeled as S' or S) thereby become endocentric and can fall into the general X-bar schema (16), such that the basic clause structure is as follows.

(21)

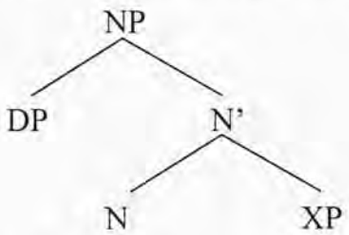


According to the structure (21), a clause has the basic C-I-V skeleton, where the lexical categories and their projections are characteristically enclosed within functional projections, as the complements to the functional heads.

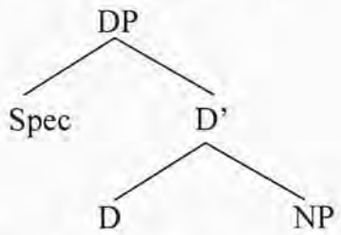
2.3.1.2 Projecting DP

Based on the X-bar schema (16), there are generally two ways of representing the internal structure of noun phrases, as roughly shown below.

(22)a.



b.



The structure in (22a) was assumed in Jackendoff (1977), while the structure in (22b) was more widely held by later works in the Generative literature. Hellan (1986) studies the phenomenon of agreement inside none phrases in Norwegian and views D in lieu of N, as the head of nominals. Abney (1987) defends this DP-hypothesis by providing a series of evidence and proposes that the structure of the noun phrase parallels that of the clause in the sense that the lexical projection (NP or VP) is wrapped up by the functional material (DP or IP). He argues that in languages in which nouns show agreement with their possessors, D is an I-like element and holds agreement inflection in the nominal domain. Note that unlike the more recent assumptions, Abney takes IP but not CP as an analogy of DP in the clausal domain.

Abney also highlights the fact that very different from other prenominal modifiers determiners are usually obligatory in noun phrases. The structure (22a) fails to capture the differences between determiners and other modifiers, unless one argues for an independent reason to account for the obligatoriness of the former. The structure (22b), by taking articles, demonstratives, pronouns, and proper names as the lexical instantiations of the functional head D which takes NP as a complement, makes the observed asymmetry quite straightforward. Moreover, he further points out that the DP analysis can also capture the differences among four types of determiners. Articles systematically require a complement, demonstratives and pronouns optionally select a complement, whereas proper names cannot take a complement at all. He attributed these differences to the subcategorization properties of the heads.

Another advantage of the DP-analysis is that by allowing D to project its own phrase, the head position and the specifier position could be radically distinguished. Articles as terminal elements and genitives as non-terminal elements thus occupy different positions, akin to the distinct distributions of complementizers and the preposed *wh*-phrases.

Stowell (1989, 1991) further points out that nouns seem to have a dual nature. On the one hand, they have θ-grid and can function as predicates, just as verbs and predicative adjectives (23a); on the other hand, unlike verbs and adjectives, nouns can bear referential properties and function as arguments (23b).

(23)a. *John is a good doctor.*

b. *John visited a good doctor.*

Based on this observation, Stowell suggests that noun phrases could surface as either NP or DP, and distinguishes NP and DP in the way that N is uniformly predicative while D is uniformly referential. The basic idea of his proposal is that NP itself

cannot refer and that in order for the noun phrase to be an argument it must be extended to a DP projection. Hence the structure (22b) is adopted for argumental noun phrases. The predicative noun phrase, in contrast, is not the complement of D as they are non-referential, and the structure (22a) is hence adopted. Stowell notices that the determiner is obligatory even in predicative NPs. His solution is to assume that the bare nouns in English are kind-denoting rather than entity-denoting and that one of the functions of determiners is to pick out a member from a kind; hence determiners are also necessary for non-referential noun phrases.

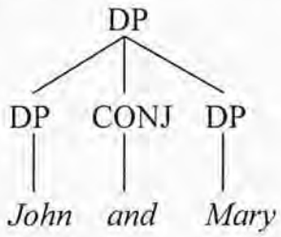
2.3.2 The cartographic approach

So far I have reviewed the extension of the X-bar schema (Chomsky 1970) to functional categories. The basic idea is that functional categories can head their own projections and enclose the lexical categories inside, such that noun phrases and clauses are the extended functional projections of the lexical categories – nouns and verbs (Grimshaw 2005).

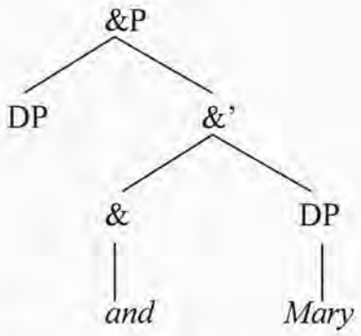
One of the unchanging themes (perhaps the most influential one) in the development of the Generative Grammar is to seek for simplicity. The X-bar theory has been proposed to achieve such a goal as to reduce the complex phrase structure rules into a uniform yet adequate schema. In order to further limit the complexity of the grammar, Kayne (1981, 1984) proposes the Binary Branching Hypothesis (henceforth BBH) that syntactic constituents are mostly binary, which constitutes the core of Larson's (1988) VP-shell analysis, Kayne's (1994) antisymmetry, and most recently the notion of Merge (Chomsky 1995a). Even the coordination construction, traditionally assumed as the only structure that is exempted from the binary requirement, has been extensively explored since 1990s and was argued to obey BBH (Munn 1993, Johannessen 1996, 1998, Progovac 2003, *inter alia*). Hence

instead of the structure (24a), the coordination construction has a binary-branching pattern (24b), in which the conjunction *and* heads an &P projection.

(24)a.



b.



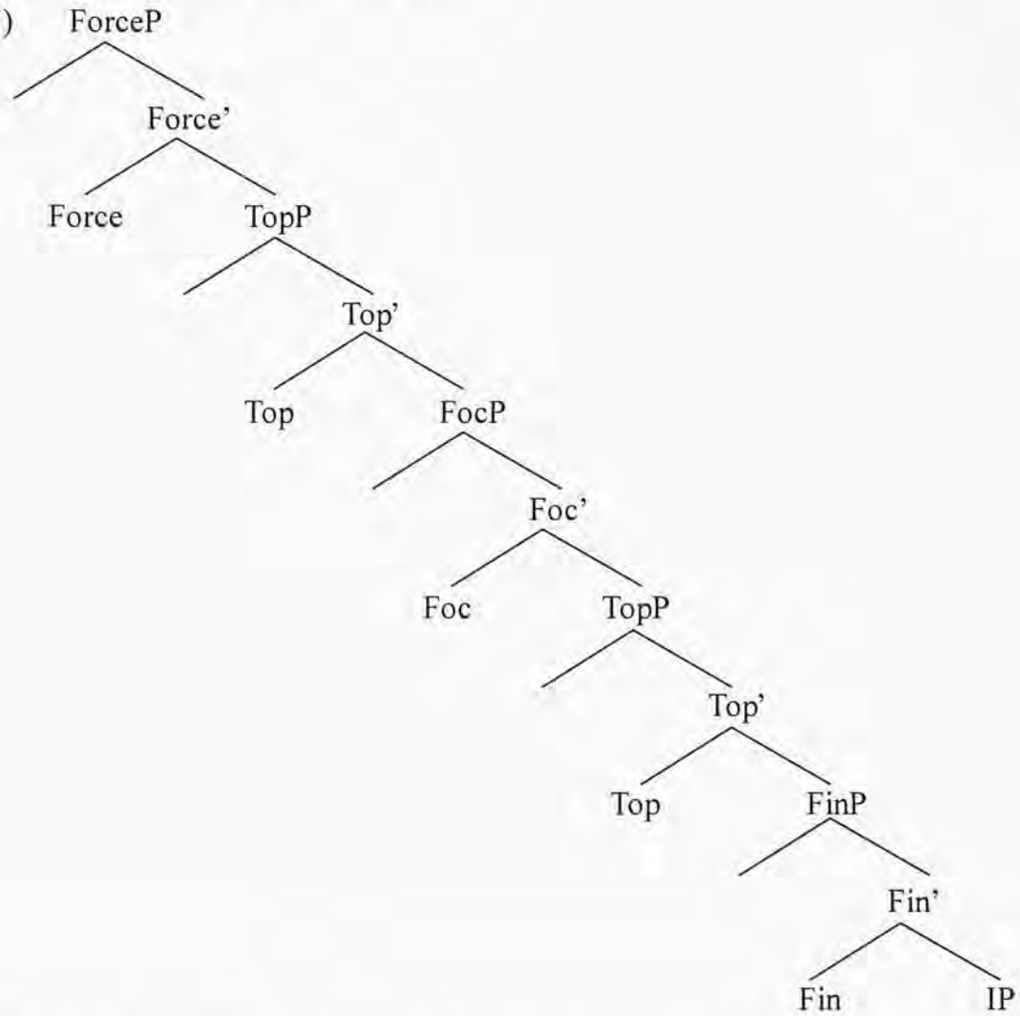
Given BBH, linguists have soon discovered that there is not enough space to accommodate all the preposed elements in the CP layer. There are two solutions to the problem. One is to argue that the complementizer allows multiple specifiers, and the other is to argue that CP is composed of different subprojections, each projecting a specifier position. The first solution is simpler, but is not satisfactory as it cannot explain why various elements can occupy the specifier positions of the same head C. What is even harder to explain by the multiple specification account is the observation that the various elements occurring before the complementizer are restricted in a fixed ordering (Cinque 1999). The second solution, also known as the Split-CP hypothesis, is discussed in the next subsection. In Section 2.3.2.2, I review several works in the Generative literature that attempted to extend the same approach to DP.

2.3.2.1 Splitting CP

Along the lines of Larson's (1988) Split-VP Hypothesis and Pollock's (1989) Split-IP Hypothesis, Rizzi (1997) proposes that the complementizer layer cannot be simply represented as a single X-bar schema. Rather, a more articulated structural representation is needed to account for the interaction among different types of elements in the left periphery, such as preposed *wh*-phrases, relative pronouns,

topics and focalized materials. The whole picture of the left periphery is thus represented as follows (Rizzi 1997:297).

(25)



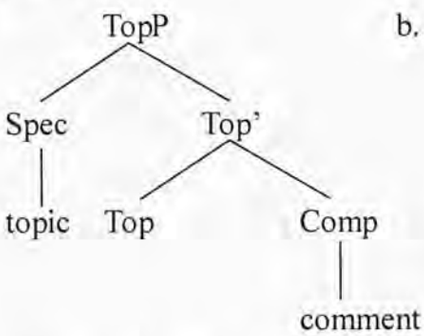
According to Rizzi, these four types of elements are not freely preposed to adjoin to C and occupy the [Spec CP] position, as they are quite different in nature from both syntactic and semantic perspectives. Rather, they should be triggered by different features and form the spec-head configuration with different heads, namely Force, Fin(iteness), Top(ic) and Foc(us), which exhibit a fixed ordering crosslinguistically.

Rizzi takes the complementizer layer as an interface between the proposition (i.e. IP) and the discourse; accordingly he proposes that the C-system encode at least two different pieces of information, i.e. force and finiteness. When facing the higher structure or the discourse, the C-system expresses the illocutionary force of the

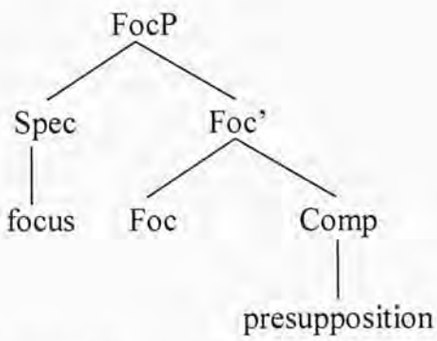
whole clause. Such information can either be morphologically realized on the head Force (as SFPs, for instance) or encoded in an operator-like element that triggers the movement of a relevant chunk to the [Spec, ForceP] position (as *wh*-movement, for instance). When facing the inside, i.e. its complement IP, the Fin head specifies the temporal property of the IP in order to achieve agreement between C and I. This can be evidenced by the fact that in English the complementizer *that* requires its complement IP to have a tensed VP whereas *for* requires its complement IP to have a nonfinite VP.

Rizzi argues that the two heads Force and Fin constitute the essential part of the C-system, hence are present at all non-truncated clauses and delimit the complementizer layer. Besides, the C-system can optionally perform other functions, such as accommodating the topicalized and focalized elements. Therefore, two other heads Top and Foc encoding relevant feature specifications are needed, each projecting its own phrase. The contrast can be shown in the following tree diagrams (Rizzi 1997:286 – 287).

(26)a.



b.



Rizzi points out that Top and Foc are fundamentally different. The [Spec, TopP] position normally hosts the old information (i.e. Topic) whereas the [Spec, FocP] position always encodes the new information (i.e. Focus). In addition, Top and Foc also differ from each other in terms of their syntactic behaviors. For instance, while the topicalized object in Italian always involves a resumptive clitic *lo*, the focalized

object cannot license such a clitic, as clearly shown in the following contrast.

(27)a. *Il tuo libro, lo ho comprato.* – Italian
Your book I bought it
'(As for) your book, I bought it.' (Rizzi 1997:289)

b.**IL TUO LIBRO lo ho comprato (non il suo).* – Italian
your book I bought it not his
(Int.) '(It is) your book (not his book) that I bought.' (Rizzi 1997:290)

Moreover, a clause can contain many topics, but there is only one structural position to accommodate the focalized element. A clause with more than one focus is ruled out, as illustrated in (28b) below.

(28)a. *Il libro, a Gianni, domani, glielo darò*
the book to John tomorrow I'll give it to him
senz'altro. – Italian
for sure
'The book, to John, tomorrow, I'll give it to him for sure' (Rizzi 1997:290)

b.**A GIANNI IL LIBRO darò (non a Piero,*
to John the book I'll give not to Piero
l'articolo). – Italian
the article
(Int.) '(It is) to John (not to Piero) and (It is) the book (not the article) that I'll give.' (Rizzi 1997:290)

One plausible reason underlying the uniqueness of Focus suggested by Rizzi is that since the complement of Foc, i.e. the presupposition, must host the old information, it cannot accommodate another FocP as the [Spec, FocP] position inevitably involves the new information. On the other hand, TopP is recursive as its complement, i.e. the comment, encodes the new information, thus can host another TopP.

The ordering among all four heads in the C-system has been shown in (25). The two essential projections ForceP and FinP delimit the system and sandwich the other projections, while TopP and FocP only appear when they are "needed". It should be noted that TopP is the only recursive projection in Rizzi's C-system and

there is no constraint on the exact number and position of TopPs allowed in the system. Consider the following examples:

(29)a. *Credo* *che* *domani,* *a Gianni,* *QUESTO*
I believe that tomorrow to John this
gli dovremmo dire. – Italian
we should say
'I believe that tomorrow, to John, (it is) this that we should say.'
Rizzi (1997:296)

b. *Credo* *che* *QUESTO,* *domani,* *a Gianni,*
I believe that this tomorrow to John
gli dovremmo dire. – Italian
we should say
'I believe that (it is) this, tomorrow, to John, that we should say.'
Rizzi (1997:296)

c. *Credo* *che* *domani,* *QUESTO,* *a Gianni,*
I believe that tomorrow this to John
gli dovremmo dire. – Italian
we should say
'I believe that tomorrow, (it is) this, to John, that we should say.'
Rizzi (1997:296)

As shown in the above examples, the TopPs can occur either above (29a) or below (29b) the unique FocP, or sandwich it (29c). The only restriction on TopP is that it must occur between the ForceP headed by *che* 'that' and the IP *gli dovremmo dire* 'we should say'.

Based on the crosslinguistic data and the attested ordering of the four peripheral elements, Rizzi further argues that the complementizers *that* in English (30) and *qui* 'that' in French (31) are lexical instantiations of the head Force, while the prepositional complementizer *di* 'of' in Italian (32) is the manifestation of the Fin head.

(30)a. *I think that around Christmas John will come home.*
b. **I think, around Christmas, that John will come home.* (Rizzi 1997:301)

(31) *Voici l'homme* *que* *je crois* *qui,* *l'année prochaine,*
here is the man who I think that next year
t pourra nous aider. – French
will be able to help us
'Here is the man who I think that, next year, will be able to help us.'
(Rizzi 1997:319)

(32)a. *Credo,* *il tuo libro,* *di* *apprezzarlo molto.* – Italian
I believe your book of appreciate it a lot
'I believe that, your book, (I'll) appreciate it a lot.' (Rizzi 1997:288)

b.**Credo* *di* *il tuo libro,* *apprezzarlo molto.*
I believe of your book appreciate it a lot – Italian
(Int.) 'I believe that, your book, (I'll) appreciate it a lot.' (Rizzi 1997:288)

The complementizers *that* in (30) and *qui* in (31) head the ForceP and introduce the proposition IP in English and French respectively. They always occur to the leftmost side of the embedded clauses. The sentence (30b) is ungrammatical because *that*, the head of the embedded ForceP, is lower in structure than the TopP *around Christmas*. In (32), the Italian complementizer *di* 'of' occurs below the TopP *il tur libro* 'your book' and immediately above IP *apprezzarlo molto* 'to appreciate it a lot', and hence is argued to head the FinP. The sentence (32b) is ungrammatical because *di*, the head of the embedded FinP, is higher in structure than the TopP. Given that Force and Fin always occur in a fixed ordering and together they delimit the C-system, the contrast in the placement of the two types of complementizers in (30) and (32) can be naturally accounted for.

Furthermore, Rizzi proposes that in Italian the relative pronoun *a cui* moves to the highest position within the C-system, namely the [Spec, ForceP] position in (33), whereas the matrix interrogative pronoun *a chi* moves to the [Spec, FocP] position in (34).

(33)a. *un uomo* *a cui,* *il premio Nobel,* *lo daranno*
a man to whom the Nobel Prize they will give it
senz'altro – Italian
for sure
'a man to whom, the Nobel Prize, they will give it for sure'
(Rizzi 1997:289)

b.**un uomo,* *il premio Nobel,* *a cui* *lo daranno*
a man the Nobel Prize to whom they will give it
senz'altro – Italian
for sure
(Int.) 'a man, the Nobel Prize, to whom they will give it for sure'
(Rizzi 1997:289)

(34)a. *Il premio Nobel,* *a chi* *lo daranno?* – Italian
the Nobel Prize to whom they will give it
'(As for) the Nobel Prize, who will they give it to?' (Rizzi 1997:289)

b. **A chi,* *il premio Nobel,* *lo daranno?* – Italian
to whom the Nobel Prize they will give it
'Who, the Nobel Prize, will they give it to?' (Rizzi 1997:289)

As we can see from the above Italian examples, the relative pronoun *a cui* 'to whom' must be higher than other projections within the same C-system as the TopP *il premio Nobel* 'the Nobel Prize' in (33). In contrast, the matrix interrogative pronoun *a chi* 'to whom' occurs in a position lower than the TopP in (34). Rizzi suggests that the matrix interrogative pronoun occupies the [Spec, FocP] position as it is incompatible with the focalized elements regardless of the relative ordering, as illustrated in (35) below.

(35)a.**IL PREMIO NOBEL a chi* *dovrebbero dare?* – Italian
the Nobel Prize to whom they should give
(Int.) 'The Nobel Prize, who should they give to?' (Rizzi 1997:298)

b.**A chi* *IL PREMIO NOBEL* *dovrebbero dare?* – Italian
to whom the Nobel Prize they should give
(Int.) 'The Nobel Prize, who should they give to?' (Rizzi 1997:298)

Recall that the FocP is unique in the C-system. The fact that the matrix *wh*-word *a chi* 'to whom' cannot co-occur with the focalized element *il premio Nobel* 'the

Nobel Prize' constitutes strong evidence that the two compete for the same structural position.

Rizzi's (1997) analysis of the CP-periphery not only provides a detailed and systematic account for the structure of the clause edge, but also opens the door for further exploration of an articulated CP structure. Underpinned by Rizzi's (1997) work, Cinque (1999) takes a step further and proposes the hierarchy of functional heads at the clause periphery, as quoted below

(36) The universal hierarchy of clausal functional projections (Cinque 1999:106)

[*frankly* Mood speech act [*fortunately* Mood evaluative [*allegedly* Mood evidential [*probably* Mod epistemic [*once* T past [*then* T future [*perhaps* Mood irrealis [*necessarily* Mod necessity [*possibly* Mod possibility [*usually* Asp habitual [*again* Asp repetitive (I) [*often* Asp frequentative (I) [*intentionally* Mod volitional [*quickly* Asp celerative (I) [*already* T anterior [*no longer* Asp terminative [*still* Asp continuative [*always* Asp perfect (?) [*just* Asp retrospective [*soon* Asp proximative [*briefly* Asp durative [*characteristically (?)* Asp generic/progressive [*almost* Asp prospective [*completely* Asp SgCompletive (I) [*tutto* Asp PlCompletive [*well* Voice [*fast/early* Asp celerative (II) [*again* Asp repetitive (II) [*often* Asp frequentative (II) [*completely* Asp SgCompletive (II)]]]

Tenny (2000) takes a moderate view on this issue and modifies Cinque's theory by grouping all the functional categories into six semantic zones, as quoted below:

(37) Tenny's (2000:318) semantic zones and functional projections

a. Point of view (Speaker deixis)	[*frankly* Mood $_{\text{speech act}}$ [*fortunately* Mood $_{\text{evaluative}}$ [*allegedly* Mood $_{\text{evidential}}$ [*probably* Mod $_{\text{epistemic}}$
b. Deictic time (Temporal deixis)	[*once* T $_{\text{past}}$ [*then* T $_{\text{future}}$
c. Truth value	[*perhaps* Mood $_{\text{irrealis}}$ [*necessarily* Mod $_{\text{necessity}}$ [*possibly* Mod $_{\text{possibility}}$
d. Subject-oriented[9]	[*willingly* Mod $_{\text{volitional}}$ [*inevitably* Mod $_{\text{obligation}}$ [*cleverly* Mod $_{\text{ability/permission}}$
e. Middle aspect	[*usually* Asp $_{\text{habitual}}$ [*again* Asp $_{\text{repetitive (I)}}$ [*often* Asp $_{\text{frequentative (I)}}$ [*intentionally* Mod $_{\text{volitional}}$ [*quickly* Asp $_{\text{celerative (I)}}$ [*already* T $_{\text{anterior}}$ [*no longer* Asp $_{\text{terminative}}$ [*still* Asp $_{\text{continuative}}$ [*always* Asp $_{\text{perfect (?)}}$ [*just* Asp $_{\text{retrospective}}$ [*soon* Asp $_{\text{proximative}}$ [*briefly* Asp $_{\text{durative}}$ [*characteristically (?)* Asp $_{\text{generic/progressive}}$ [*almost* Asp $_{\text{prospective}}$
f. Core event	[*completely* Asp $_{\text{SgCompletive (I)}}$ [*tutto* Asp $_{\text{PlCompletive}}$ [*well* Voice [*fast/early* Asp $_{\text{celerative (II)}}$ [*again* Asp $_{\text{repetitive (II)}}$ [*often* Asp $_{\text{frequentative (II)}}$ [*completely* Asp $_{\text{SgCompletive (II)}}$

Tenny argues that the six zones differ from one another in terms of semantics and that each zone corresponds to a single functional projection. Hence it is unnecessary to establish a universal ordering among all functional heads; rather, only the fixed ordering of the six semantic zones is needed. By classifying the nearly forty functional heads into just six types, the difficulty of explaining the ordering constraint can thus be greatly reduced.

---

[9] Note that Tenny's classification was based on an earlier version of Cinque (1999). The three functional heads grouped in the subject-oriented zone were in fact missing in the hierarchy (36) for unclear reasons. Since the concern of the thesis is limited to the first three zones, i.e. the upper semantic zones in Tenny's (2000) terminology, whether the subject-oriented zone exists or not is irrelevant here.

In Chapter 4 I evaluate both Cinque's (1999) hierarchy of unlimited functional projections and Tenny's (2000) proposal of the six semantic zones and I demonstrate that the Jingpo data can be best analyzed by the former. The latter, however, fails to capture the ordering constraints between functional heads of the same semantic zone.

2.3.2.2 Splitting DP

In line with the Split-CP hypothesis, a number of linguists (Aboh 1997, 2004, 2010, Ihsane and Puskás 2001, Ihsane 2008, Haegeman 2004, Laenzlinger 2005, Alexiadou, Haegeman, and Stavrou 2007, *inter alia*) propose that DP is not a unitary projection either and that it can be analyzed into an articulated array of functional projections in the same fashion as Rizzi (1997) decompose CP. In this section, I review several works along this line.

Based on the noun phrase structure in Gungbe, Aboh (1997, 2004, 2010) proposes that the Gungbe specificity marker encoding the feature [±specific] and the number marker encoding the feature [±plural] are associated with two functional heads, namely D and Num, delimiting the D-system. In his framework, D and Num are the major components of the nominal left periphery, serving as the bridge between the nominal expression and the discourse. D is the head of the highest projection within the determiner layer and bears the D(iscourse)-linked features in terms of Pesetsky (1989, 2000), while Num as the locus of plural marker, heads the lowest projection mediating between the D-system and the ΣP. The latter stands for the nominal inflectional projection where the agreement features within noun phrases are encoded, on a par with the IP in the clausal domain.

Aboh (2004) shows that in Gungbe bare nouns together with their modifiers or the numeral expressions yield an indefinite meaning. As shown in (38a) below, the

bare noun plus the numeral *távò àwè* 'two tables' refers to any two tables in the store. If the plurality marker *lɛ́* is added to the noun phrase (38b), however, only the definite reading is possible. Hence the resulting noun phrase *távò àwè lɛ́* refers to the two tables both the customer and the seller have in mind. What is more, by further adding the specificity marker *lɔ́* (38c), the meaning of the noun phrase is changed again. This time the whole chunk *távò àwè lɔ́ lɛ́* refers to the specific two tables that have been discussed by the customer and the seller before.

(38)a. *Mì* *sà* *távò* *àwè* *ná* *mì.* – Gungbe
2PL-NOM sell-PERF table two to 1SG-ACC
'Sell me two tables, please.' (Aboh 2004:80)

b. *Mì* *sà* *távò* *àwè* *lɛ́* *ná* *mì.* – Gungbe
2PL-NOM sell-PERF table two PL to 1SG-ACC
'Sell me the two tables, please.' (Aboh 2004:80)

c. *Mì* *sà* *távò* *àwè* *lɔ́* *lɛ́* *ná* *mì.* – Gungbe
2PL-NOM sell-PERF table two SPF PL to 1SG-ACC
'Sell me the two specific tables, please.' (Aboh 2004:81)

The above Gungbe data suggest that in (38a) the plurality marker *lɛ́* is not used for quantificational purpose. Rather, it expresses definiteness (38b). On the other hand, the specificity marker *lɔ́*, as clearly shown in the data set, links the nominal expression to the discourse (38c).

Further data illustrate the dual role of *lɛ́* when it is directly added to a bare noun, as illustrated in (39a) below. In this case it marks both definiteness and plurality of the noun *távò* 'table'. The specificity marker *lɔ́* can also be directly added to a bare noun (39b), yielding the specific reading only. The resulting noun phrase *távò lɔ́* refers to a specific table that has been discussed in the previous discourse. It should be noted that *lɔ́* cannot be added to a plural nominal without the occurrence of the plural marker *lɛ́* (39c). In other words, though *lɛ́* is optional for plural marking (38a), it has to appear in a context when *lɔ́* is added to a plural noun

as evidenced by the contrast in grammaticality of (38c) and (39c).

(39)a. *Mì* *sà* *távò* *lɛ́* *ná* *mì.* – Gungbe
2PL-NOM sell-PERF table PL to 1SG-ACC
'Sell me the tables, please.' (Aboh 2004:81)

b. *Mì* *sà* *távò* *lɔ́* *ná* *mì.* – Gungbe
2PL-NOM sell- PERF table SPF to 1SG-ACC
'Sell me a (specific) table, please.' (Aboh 2004:81)

c. **Mì* *sà* *távò* *àwè* *lɔ́* *ná* *mì.* – Gungbe
2PL-NOM sell- PERF table two SPF to 1SG-ACC
'Sell me the two specific tables, please.' (Aboh 2004:81)

Before going into detail of Aboh's Split-DP account, a clarification on the distinction between definiteness and specificity is in order. In recent literature there are two different views on this distinction. Sio (2008:103) following Arsenijevic's (2008) work defines the two notions in terms of membership of discourse, quoted in (40) below.

(40)a. A noun phrase is definite if its referent is present in the shared discourse.
b. A noun phrase is specific if its referent is present in the speaker's discourse.

According to her definition, both definiteness and specificity resort to the discourse. The only difference between the two lies in whether the hearer shares the same discourse with the speaker or not. In comparison, Ihsane and Puskás (2001:40) define definiteness and specificity as follows.

(41)a. Definiteness selects one object in a class of possible objects.
b. Specificity relates to pre-established elements in the discourse.

In their view, only specificity requires D-linking. A definite noun phrase selects an entity from a class of possible referents, but such reference is unnecessarily pre-established in the discourse. Note that these two means of distinguishing definiteness from specificity have different consequences. Based on Sio's (2008) definition, an indefinite noun phrase can be either specific or not, but a definite noun

phrase is always specific,[10] since the shared discourse includes the speaker's discourse. On the other hand, Ihsane and Puskás' (2001) definition completely separates the two notions.

At the first sight, the Gungbe data seem to favor Sio's (2008) distinction. As shown in the contrast between (38c) and (39c), the definite marker *lɛ́* is a necessary condition for the expression of specificity for Gungbe plural nouns. If we look at the data closely, however, we can find that such correlation is not straightforward. On the one hand, the definite marker *lɛ́* does not necessitate the specificity marker *lɔ́* (38b), and on the other, the specificity marker *lɔ́* can be independent[11] from the definite marker *lɛ́* (39b).

Further evidence for the separation of definiteness and specificity is shown in the following crosslinguistic data.

(42)a. *J'* *ai* *pris* *le* *train.* – French
I have taken the train
'I took the (specific) train.' (Ihsane and Puskás 2001:40)

b. *Jean* *a* *raté* *le* *bus.* – French
John has missed the bus
'John missed the (specific) bus.' (Ihsane and Puskás 2001:40)

(43)*Scommetto* *che* *non* *troverai mai* *la segretaria* *di* *un onorevole*
I bet that not you will find the secretary of a deputy
che *sia* *disposta a testimoniare contro di lui.* – Italian
that be|3SG[SUBJ] willing to witness against him
'I bet you'll never find a secretary of a deputy who is willing to witness against him.' (Giusti 1997:105)

(44)a. *Anna* *lemaradt* *a* *vonatrol.* – Hungarian
Anna down-stayed the train-from
'Anna missed the (specific) train.' (Ihsane and Puskás 2001:41)

---

[10] Also see Enç (1991) for the strong claim that all definites are specific.

[11] It is true that *lɛ́* as a plural marker is by nature incompatible with singular nouns in (39b), but the data from French, Italian, and Hungarian in (42) to (44), all of which employ definite determiners independent from plural marking, suggest that definiteness and specificity are indeed separable.

b. *A vonatrol lemaradt Anna.* – Hungarian
the train-from down-stayed Anna
'Anna missed the specific train.' (Ihsane and Puskás 2001:41)

In the French data (42), both nouns *train* 'train' and *bus* 'bus' follow the definite marker *le*, but they both are ambiguous between a specific reading and a non-specific one. In the Italian data (43), the noun *segretaria* 'secretary' appears with the definite marker *la*, but it is not interpreted as referring to anyone pre-established in the discourse. In the Hungarian data (44), the choice between the specific and non-specific interpretations has nothing to do with the definiteness of the DP. A definite DP as *a vonatrol* 'the train' can be either specific or not. Which interpretation is available is entirely determined by its relative position with the verb. While the postverbal definite DP (44a) is ambiguous between a specific reading and a non-specific one, only the former is available to the preverbal definite DP (44b). The contrast in (44) shows that definiteness and specificity are not purely semantic notions. Based on the observation, Ihsane and Puskás (2001) conclude that definiteness and specificity are two separate features and should be checked at different functional projections.[12]

Following this line of thinking, Aboh (2004:83) applies the Split-DP analysis to the Gungbe data and proposes the following base structure for Gungbe DPs.[13]

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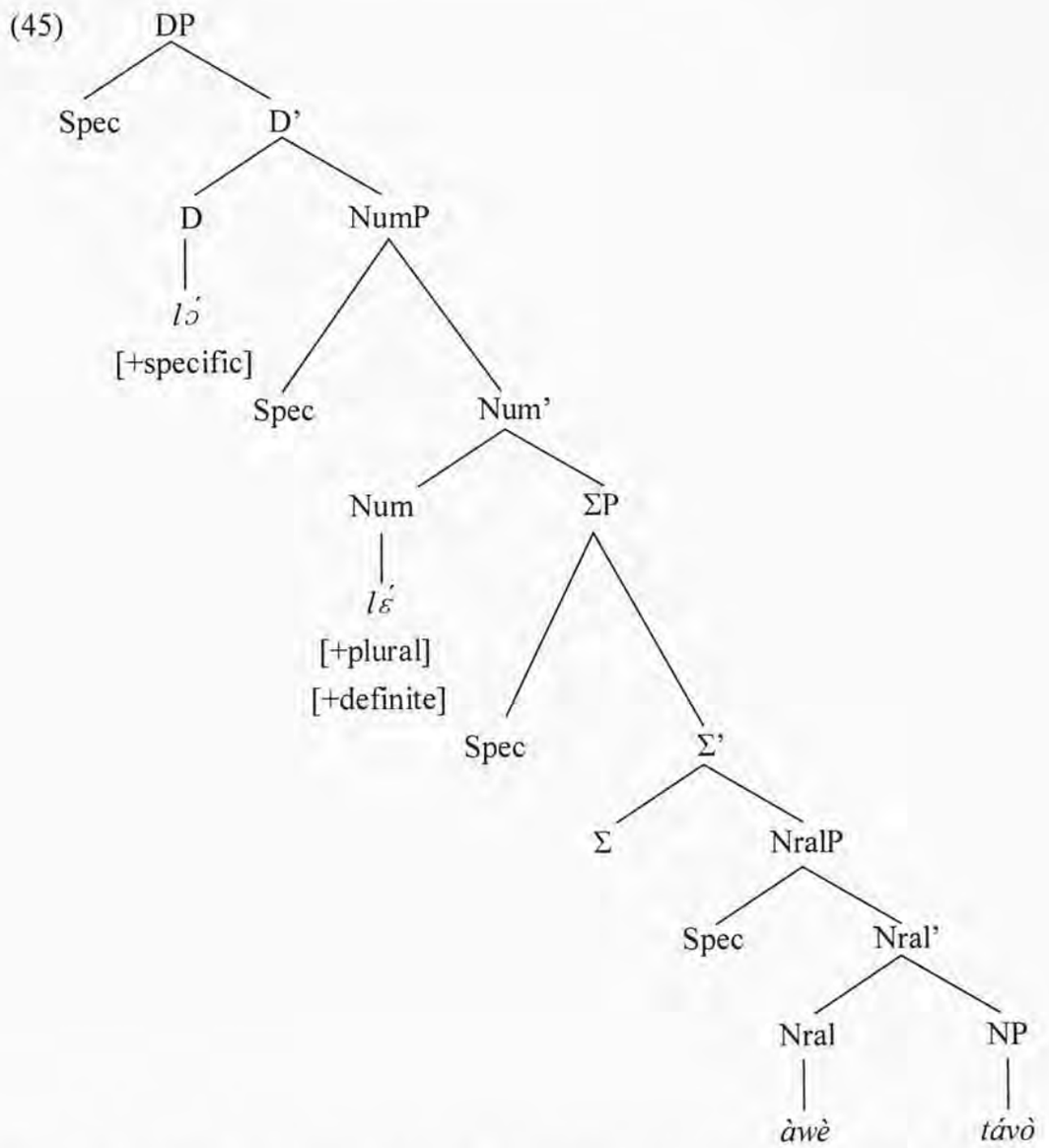
[12] Ihsane and Puskás (2001) propose that the specificity marker projects a DP-internal TopP because the [Spec, TopP] position hosts old information (Rizzi 1997). This is different from Aboh's (2004) and Laenzlinger's (2005) analyses, the latter of which will be reviewed soon, whereby the specificity marker heads the highest projection in the D-system. In the thesis I adopt the latter view and reject the idea that the specificity feature is checked at the TopP as no evidence suggests that DPs with specificity markers have marked structures.

[13] Note that Aboh applies Kayne's (1994) LCA to his analysis and thereby assumes that Gungbe's underlying word order is head-initial.

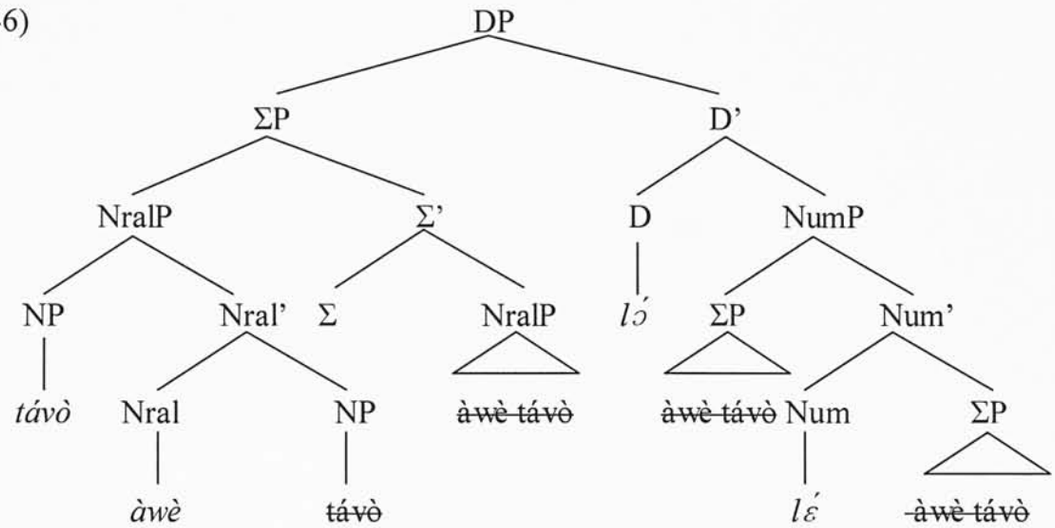
(45)



As shown in (45), the functional head D is split into two heads, D and Num. When they are morphologically realized as *lɔ́* and *lɛ́*, respectively, the DP has a specific, definite and plural reading (38c). When D is realized as *lɔ́* while Num is not overtly realized, the DP refers to a specific, definite and singular entity (39b). When Num is realized as *lɛ́* while D is not realized, the DP refers to definite yet nonspecific entities (39a). The ungrammaticality in (39c) can be explained in terms of the head-complement selectional properties of D, whereby the specificity marker *lɔ́* requires either a singular noun (39b) or a definite plural noun (38c).

To derive the surface word order, Aboh (2004) proposes a series of "snowballing" movements as well as cyclic movements. The whole derivation is diagrammed as follows (Aboh 2004:89).

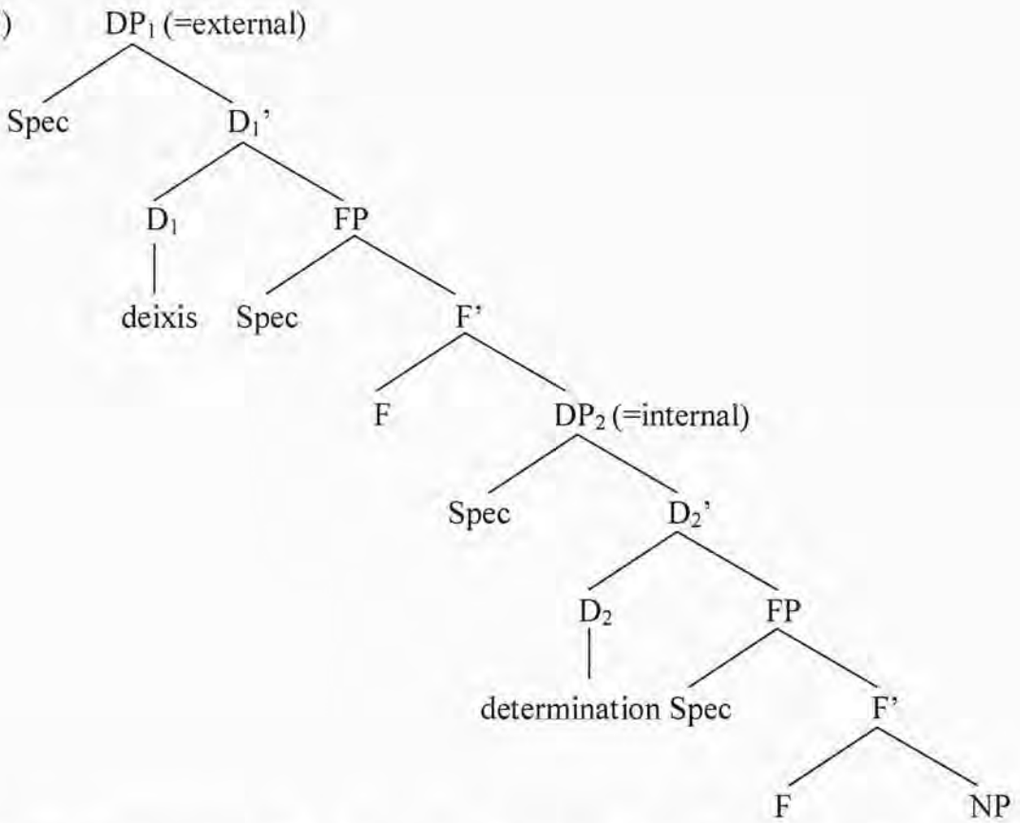
(46)



As illustrated in (46), NP is moved to [Spec, NralP] first. The NralP in turn moves to [Spec, ΣP]. The ΣP then undergoes cyclic movement from [Spec, NumP] to [Spec, DP], hence gives rise to the N-Numeral-Specificity-Plurality order. I would like to conclude the review of Aboh's work by pointing out that this NumP in his system is very different from the NumP generally assumed in the Generative literature. The NumP in the latter sense is more like the NralPs in (45) and (46) which accommodate the numeral expressions such as àwè 'two' in Gungbe. From now on I will follow others and use NumP to exclusively refer to the NralP in Aboh's system.

Laenzlinger (2005) further elaborates Aboh's (2004) Split-DP analysis by examining adjective ordering and DP-internal movement in French. The base structure for French noun phrases is illustrated below (Laenzlinger 2005:666).

(47)



Laenzlinger decomposes DP into two functional layers, namely D_{deixis} and $D_{determination}$, corresponding to Aboh's D and Num respectively. Besides, he proposes a functional projection that is responsible for the DP-internal agreement checking, analogous to Aboh's ΣP. Note that the functional projection FP is recursive in Laenzlinger's framework. There is no limit on the number of FPs allowed in the D-system, but each FP is different from another in the sense that their specifier positions are semantically associated with different kinds of adjectives and hence should be strictly ordered. This accounts for the restrictive adjective ordering crosslinguistically (Cinque 1994). According to Laenzlinger (2005), the two functional heads delimit the D-system. D_1 is the locus of the discourse/pragmatic interpretation of the noun phrase, expressing familiarity,[14] whereas D_2 faces the internal lexical properties of the noun, expressing definiteness.

[14] Familiarity here can be treated as the equivalent of Aboh's (2004) specificity, both referring to something mentioned in the previous discourse.

Laenzlinger (2005) applies the complex DP structure (47) to explain the fact that French allows both prenominal and postnominal adjectives, as depicted in (48) below. He notices that adjectives in these two positions have different status. While the postnominal adjectives are in their canonical positions, the prenominalization of adjectives is triggered by interface factors such as focus.

(48)a. *une* *voiture* *superbe* – French
a car superb
'a superb car' (Laenzlinger 2005:686)

b. *une* *SUPERBE* *voiture* – French
a superb car
'a car (that is) superb' (Laenzlinger 2005:686)

In his analysis, French adjectives are base-generated in a prenominal position as the right-attachment is limited to complements (Kayne 1994). Following the N-movement analysis (Cinque 1994), they become postnominal when the head noun is moved upwards, most likely to the highest F. The lexical determiner is originally merged to the lower D head and moves to the higher D to check the specificity feature. This gives rise to the determiner-N-adjective order (48a). The prenominal adjective, on the other hand, moves to the highest [Spec, FP] position in order to check the relevant interface features,[15] resulting in the determiner-adjective-N order (48b). The derivation of (48a) and (48b) is roughly illustrated in (49a) and (49b) respectively.

(49)a. [$_{DP1}$ *une* [$_{FP}$ *voiture* [$_{DP2}$ ~~*une*~~ [$_{FP}$ *superbe* [$_{NP}$ ~~*voiture*~~]]]]]

b. [$_{DP1}$ *une* [$_{FP}$ *superbe voiture* [$_{DP2}$ ~~*une*~~ [$_{FP}$ ~~*superbe*~~ [$_{NP}$ ~~*voiture*~~]]]]]

It should be clarified that Deixis as a functional head should be distinguished from either temporal or spatial deictic expressions such as *yesterday, today, tomorrow,*

[15] Note that in Cinque's (1994) view [Spec, FP] only accommodates the base-generated attributive adjectives. I will argue shortly that the canonical landing site for focalized elements is [Spec, FocP], not [Spec, FP]. In that case, the derivation of the prenominal adjective *superbe* 'superb' (49b) should be modified as follows:

i [$_{DP1}$ *une* [$_{FocP}$ *superbe* [$_{FP}$ *voiture* [$_{DP2}$ ~~*une*~~ [$_{FP}$ ~~*superbe*~~ [$_{NP}$ ~~*voiture*~~]]]]]]

here, there, this, that, etc. It is defined in terms of discourse-relatedness and is where the [±specific] feature gets checked. A Deixis head carrying the [+specific] feature indicates that the reference of the noun phrase embedded in its complement has been established in the previous discourse. To distinguish it from deictic expressions that are typically associated with demonstratives, gestural construals, etc, in this thesis I name the two functional heads delimiting the D-system as D_{EXT} and D_{INT}, respectively, corresponding to D_1 and D_2 in Laenzlinger's (2005) work.

Dimitrova-Vulchanova and Giusti (1998) investigate the syntax of noun phrases in three Balkan languages, namely Albanian, Bulgarian and Rumanian, and suggest an operator-type movement inside the DP, which is motivated by interface features. They argue that there are instances of Focus and Topic movements, found to apply to attributive adjectives and genitives, hence two other DP-internal functional projections FocP and TopP have been postulated. It should be noted that these two projections in their system are not universal even among the three Balkan languages they examined. In Albanian, both FocP and TopP project immediately below DP and their specifier positions host the preposed adjectives or genitives. In Bulgarian, the two projections dominate DP as the fronted elements precede the determiner. Moreover, topicalization in this language is only restricted to genitives. In Rumanian, however, neither topicalization nor focalization is attested. The two projections thus are argued to be absent in this language.

In Albanian nouns canonically precede all kinds of adjectives (50a). However, sometimes it is also possible for the adjective to appear in a prenominal position induced by certain interpretive factors (50b). In the latter case, a marked word order has been produced. This leads to Dimitrova-Vulchanova and Giusti's belief that the prenominal adjective is a result of A'-movement of AP as it serves the purpose of

marking information structure. They also notice that the landing site of this A'-movement is below the demonstrative, as shown by the ungrammaticality of (50c) and (50d).

(50)a. *grua-ja* *tjetër* *e bukur* – Albanian
woman-the other ART-nice
'the other nice woman' (Dimitrova-Vulchanova and Giusti 1998:336)

b. *kjo* *e bukur(a)* *grua* *tjetër* – Albanian
this ART-nice(-the) woman other
'this other nice woman' (Dimitrova-Vulchanova and Giusti 1998:349)

c.**e bukur(a)* *kjo* *grua* – Albanian
ART-nice(-the) this woman
(Int.) 'this other nice woman' (Dimitrova-Vulchanova and Giusti 1998:349)

d.**tjetra/tjetër* *kjo* *grua* – Albanian
other(-the) this woman
(Int.) 'this other nice woman' (Dimitrova-Vulchanova and Giusti 1998:349)

The genitives in Albanian can move from its canonically postnominal position (51a) to the same derived position (51b) as the adjectives do.

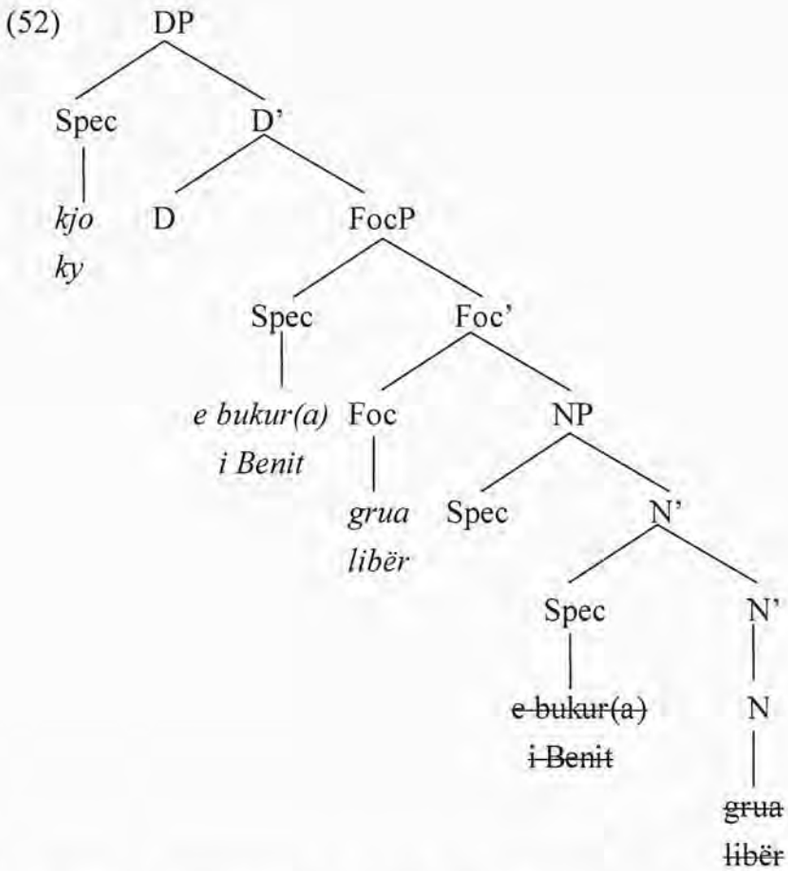
(51)a. *ky* *libër* *i Benit* – Albanian
this book ART-of-Ben
'this book of Ben's' (Dimitrova-Vulchanova and Giusti 1998:349)

b. *ky* *i Benit* *libër* – Albanian
this ART-of-Ben book
'this book of Ben's' (Dimitrova-Vulchanova and Giusti 1998:349)

c.**i Benit* *ky* *libër* – Albanian
ART-of-Ben this book
(Int.) 'this book of Ben's' (Dimitrova-Vulchanova and Giusti 1998:349)

To account for the A'-movement of both adjectives (50b) and genitives (51b) in Albanian, Dimitrova-Vulchanova and Giusti (1998:350) propose the following derivation.

(52)



The proximal demonstrative *kjo* or *ky* originates in the [Spec, DP] position. The head noun moves to the head position of FocP and then triggers the A'-movement of the adjectives or genitives to its specifier position. Accordingly, the resulting noun phrase becomes a marked structure.

The DP-internal A'-movement in Bulgarian is of a different kind. Firstly, only genitives, not adjectives, can be topicalized or focalized; secondly, the landing site of the A'-movement must precede the demonstratives. As shown in the following data, the genitive noun phrase *na Ivan* 'of Ivan' can occur to both sides of the noun.[16]

(53)a. *tezi* *novi* *knigi* *na Ivan* – Bulgarian
these new books to Ivan
'these new books of Ivan's' (Dimitrova-Vulchanova and Giusti 1998:351)

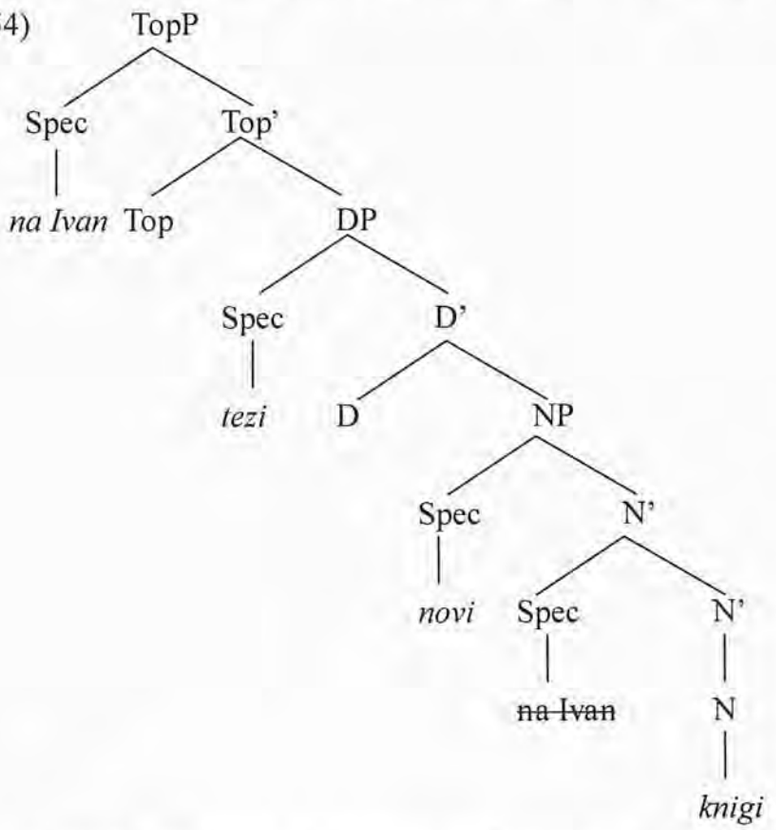
b. ?*na Ivan* *tezi* *novi* *knigi* – Bulgarian
to Ivan these new books

[16] Note that although (53b) is marked as unnatural by Dimitrova-Vulchanova and Giusti (1998:351), it is by all means acceptable.

'these new books of Ivan's' (Dimitrova-Vulchanova and Giusti 1998:351)

Dimitrova-Vulchanova and Giusti (1998:354) hence propose that the TopP and FocP in Bulgarian dominate DP. The derivation of (53b) can thereby be represented as follows. The genitive *na Ivan* originates at the [Spec, NP] position and moves all the way up to the [Spec, TopP] position motivated by interpretive factors.

(54)



Though Dimitrova-Vulchanova and Giusti's analysis can well account for the DP-internal operator movement in Albanian and Bulgarian, one problem still remains in their framework, i.e. it allows for massive parametric variation with respect to the presence as well as the placement of TopP and FocP. This departs from Rizzi's original Split-CP analysis whereby parametric variation is largely restricted. Following Chomsky's (2001) Uniformity Principle, quoted in (55) below, the inventory and hierarchy of functional categories are assumed to be universal.

(55) Uniformity Principle (Chomsky 2001:2)

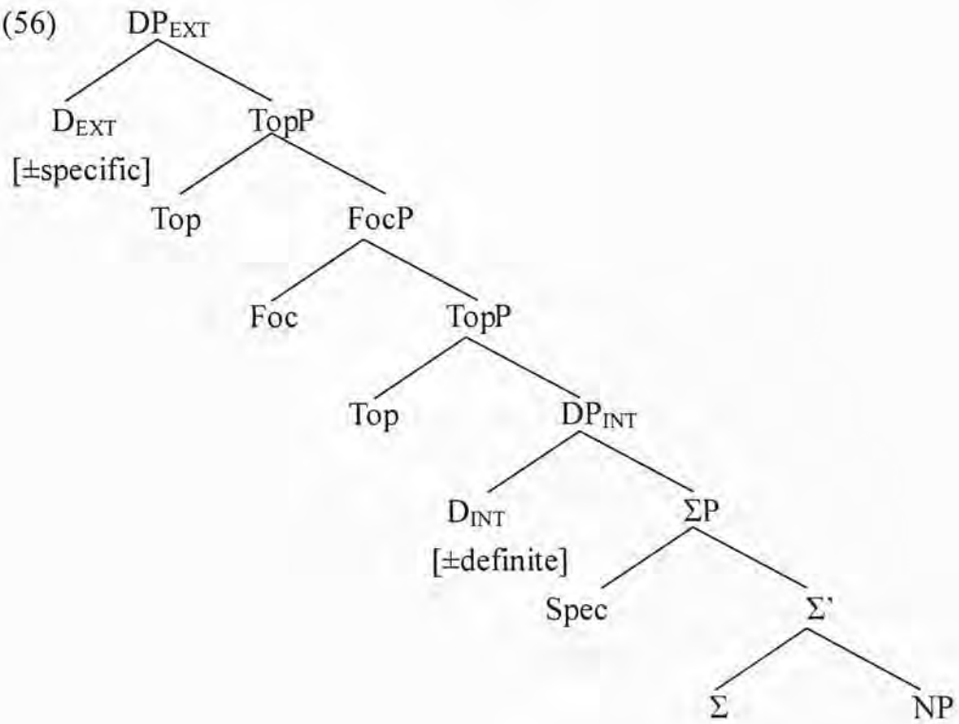
> In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances.

According to this principle, the language-specific properties are reduced to morphology. Languages, while abiding by this principle, only differ from one another "in the movements they admit and in the projections they overtly realized" (Cinque 2006:4).

Alexiadou, Haegeman, and Stavrou (2007) suggest that the diverging landing sites of DP-internal A'-movement can be reconciled by adopting Aboh's (2004) and Laenzinger's (2005) Split-DP analyses discussed earlier in this section. In that way, both TopP and FocP are sandwiched by the two layers of DP. In Bulgarian, the target position of the DP-internal topicalization dominates the lower instance of DP, but is still below the higher D.

Developed from the discussion so far, I summarize the articulated structure of DP as follows.

(56)



The two heads D_1 and D_2 delimit the D-system, analogous to Force and Fin in the clause periphery which delimit the C-system. DP_{EXT}, like ForceP, connects its internal nominal structure with the higher structure or discourse; hence can give rise to the meaning of familiarity as in Gungbe, specifying whether the noun has been mentioned in the previous discourse or not. DP_{INT} encoding definiteness in the D domain is where the definite article is usually merged. Haegeman (2004) parallels the lower D head with the Fin head of the clausal domain and claims that in the same way the finiteness anchors an event in time, the definiteness anchors a nominal reference in space. As discussed by Ihsane and Puskás (2001), the split between specificity and definiteness is necessary, because noun phrases introduced by the definite determiner are definite but they are unnecessarily interpreted as specific. Two other functional projections, TopP and FocP, are present in the D-domain only when they are "needed" for interpretive reasons. Their specifier positions thus can be treated as the landing sites of all kinds of DP-internal operator movement. The ΣP dominated by the lower instance of DP is the loci of Case and agreement in the nominal domain, analogous to IP in the clausal domain. It is named PossP in Hiraiwa (2005) whereby its specifier position hosts the genitives.

2.4. Concluding remarks

In this chapter, I present the specific Minimalist assumptions that I adopt throughout the thesis, including the Minimalist design of the cognitive system, the approach to morphology that distribute different groups of features to various modules of grammar, the economy principle of both derivations and representations, and the feature checking mechanism. Besides the theoretical framework, I also introduce the syntactic assumptions that are relevant to the ensuing discussion. I assume that clauses and noun phrases are the extended functional projections of the

lexical categories verbs and nouns and hence should be enclosed within the functional projections CP and DP respectively. Moreover, I adopt the cartographic approach whereby these two functional projections are decomposed into a set of subprojections, each corresponding to a distinct yet related grammatical function, and providing a separate specifier position as the landing site of A'-movement.

In next chapter, I first introduce the typological background of Jingpo, the language in question. I also review and evaluate the Generative Grammar attempts in the literature on the syntax of Jingpo noun phrases. My hope is that it could help the readers gain a better understanding of the language and prepare them for the analyses in later chapters.

Chapter 3 Language Background

3.1 Introduction

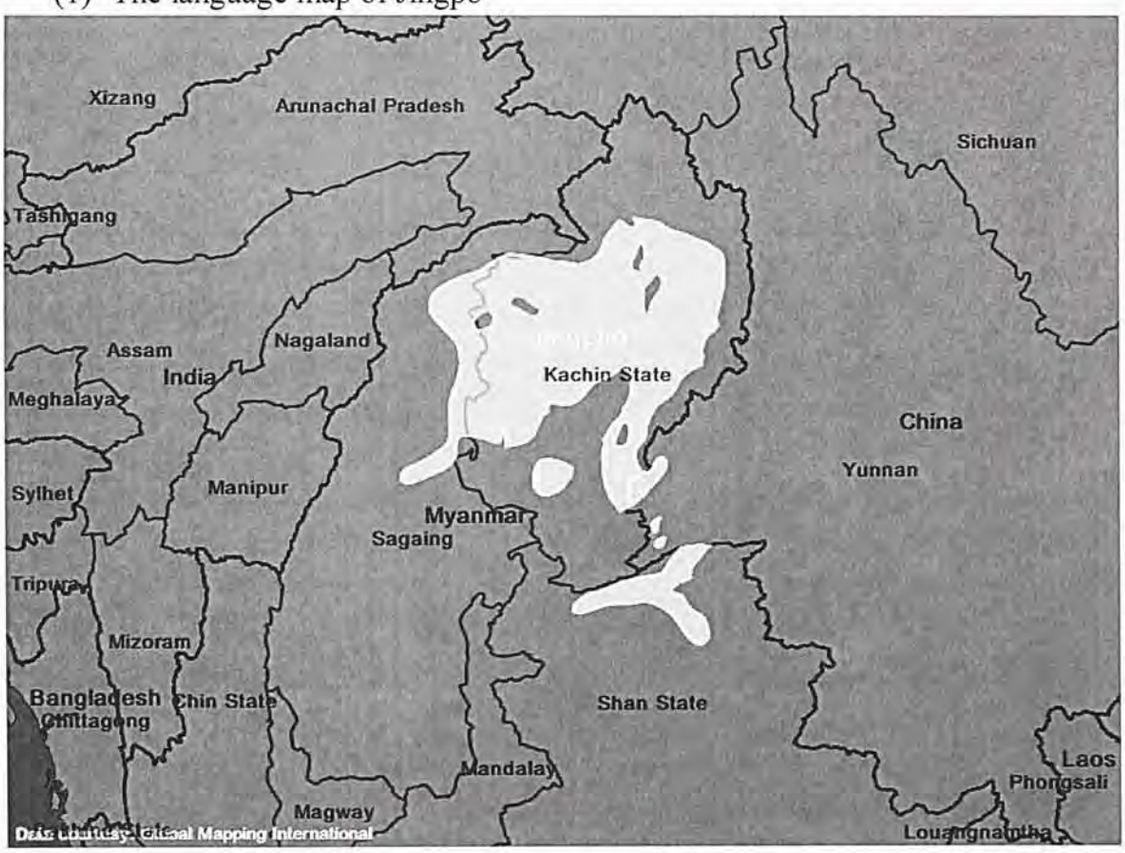
In this chapter, I introduce the language background of Jingpo (Section 3.2). First I provide relevant data to show that Jingpo is a typical head-final language in both its clausal and nominal domains. I also demonstrate that since the language has long been argued to undergo an evolutionary change from an agglutinating language to an analytic language (Dai 1996, 2003, 2008, *inter alia*) it currently shares the morphological properties of three different language types. Furthermore, I give a brief discussion of the *pro* drop in Jingpo and argue that the language exhibits mixed properties commonly found in both the agreement-based *pro* drop languages and the radical *pro* drop languages.

After introducing the typological background of Jingpo, I review and evaluate some previous studies on Jingpo noun phrase structure (Section 3.3). The presentation shows that Jingpo displays bare nouns in a variety of contexts where other languages such as Romance and Germanic languages, require a determined noun. The sequence of nouns, classifiers and numerals always exhibits a fixed order. Since its classifier system is still under development, the language currently makes use of two ways to partition nouns, namely, the classifier strategy and the N-to-Cl movement strategy. Though Jingpo allows bare nouns to occur in argumental positions, two elements are reported to mark definiteness along with other grammatical functions, i.e. the singular indefinite marker *mi* and the plural definite marker *ni/-hte*. Finally I discuss the free distribution of attributive adjectives and demonstratives. Following the recent studies I show that they are not as freely merged as previously thought.

3.2 A sketch of the Jingpo language

Jingpo[17] (also spelled Jinghpaw, Jinghpo, Chingpho, Chingpaw etc) is a Sino-Tibetan language belonging to the Jingpo subgroup of the Tibeto-Burmese family (Dai and Diehl 2003). It is spoken in the China-Myanmar border area (1) and has been described as the "linguistic crossroads" (Ramsey 1987:271) of Tibeto-Burman, showing similarities with Tibetan to the north, with Burmese to the south and with the Yi languages to the east.

(1) The language map of Jingpo[18]



The language has two principal dialects: Enkun and Shidan. The data given here were collected from speakers of the Enkun dialect. Jingpo is argued to be

[17] The name Jingpo has both broad and narrow senses. In the broad sense it refers to nine different languages spoken in the Jingpo minority group, namely Jingpo, Tsaiwa, Maru, Lashi, Azi, Achang, Hpon, Nung, and Lisu. The language used as illustration in the thesis is in its narrow sense, referring to the first kind among all nine languages.

[18] http://dev.llmap.org/language/kac/static_map.png

undergoing a robust evolutionary change from agglutinating to analytic language (Dai 1996, 2003, 2008, *inter alia*). Hence although it shows the superficial traits of a configurational system, it nonetheless shares some common properties with non-configurational languages, including fairly free ordering of major constituents, a relatively rich morphology, and extensive *pro* drop.

Most of the Jingpo people in China live in the Dehong Dai-Jingpo Autonomous Prefecture of Yunnan Province, mainly in the following counties: Yingjiang, Ruili, Lianghe, Longchuan, and Luxi.[19] Some speakers live in small compact communities, while others live interspersed with Tsai-wa, Deang, Lisu, Achang and Han peoples. The written system in Jingpo was introduced at the end of the nineteenth century based on the Roman alphabet. Jingpo dictionaries, newspapers, textbooks, and other reading materials have been published in recent decades. All the Jingpo examples in the thesis are written in both the alphabetical system (i.e. the first line) and the standard IPA symbols (i.e. the second line) with the former being italicized for ease of illustration.

3.2.1 Word order

Ever since the typological studies of languages initiated by Greenberg (1963), a lot of attention has been paid to the development of word-order typology and the investigation of the word order variation among languages. In his seminal study on the orderings of morphological and syntactic elements, Greenberg proposes 45 universals on the basis of a sample of 30 languages, most of which are implicational universals which take the form, "if a language has property P, then it has property Q". He classifies languages according to their dominant word orders. Among all six logical possibilities, namely SOV, SVO, VSO, VOS, OVS, OSV, he takes the first

[19] Luxi is where the two rounds of fieldwork for the thesis project were conducted.

three as the "basic word-order types" as he notices that subjects tend to precede objects crosslinguistically (Universal 1). Each type, in his opinion, is associated with certain word order options in other domains. For instance, postpositions, sentence-final interrogative markers, postverbal auxiliaries and prenominal relative clauses tend to co-occur in SOV languages (Universals 4, 9, 16, 24). According to Greenberg's (1963) universals, Jingpo is a typical head-final language, as shown below:

(2) a. *Marip* *ningwa* *hte* *hpun* *hta* *na*
mă$_{31}$ʒip$_{55}$ niŋ$_{31}$wa$_{33}$ t^{h}e$^{ʔ}_{31}$ p^{h}un$_{55}$ t^{h}a$_{31}$ na$_{33}$
Marip ax with firewood chop AUX.FUT
sai[20] *i?*
sai$_{33}$ i$_{51}$
SFP|COS:3SG[SUBJ]-DECL Q
'Will Marip chop the firewood with an ax?'

b. [*Marip* *hta* *sai*] *hpun*
mă$_{31}$ʒip$_{55}$ t^{h}a$_{31}$ sai$_{33}$ p^{h}un$_{55}$
Marip chop SFP|COS:3SG[SUBJ]-DECL firewood
'(the) firewood that Marip has chopped'

Both the above examples conform to Greenberg's universals. (2a) is a typical Jingpo sentence. It clearly exhibits the subject-object-verb order;[21] the postposition *hte* 'with' follows its object *ningwa* 'ax'; the auxiliary *na* 'will' comes after the lexical verb *hta* 'chop';[22] the morpheme *i* marking interrogative force of the whole sentence

[20] In the thesis I gloss all the grammatical functions that are prototypically encoded in a function word or particle, but it is worth noting that the specific cases may vary. The SFP *sai* is by default used to indicate an indicative mood of a sentence, however, in this example, the interrogative particle *i* following it "cancels" that clause-typing function of *sai*. For a detailed discussion of the interaction between Jingpo SFPs and interrogative particles, see Chapter 4.

[21] The dominant order in Jingpo is SOV, though an alternative order OSV is also possible as a marked structure, where the object is marked via topicalization or focalization.

[22] The position of auxiliaries may cause some difficulty in identifying the word order in Jingpo as certain modal verbs are allowed to precede the lexical verb. Consider the positioning of the epistemic modal *chye* in the following examples:

occurs in the clause-final position.[23] (2b) on the other hand shows a complex nominal where the head noun *hpun* 'tree' is modified by a relative clause *Marip hta sai*.[24] This embedded clause, as correctly predicted by Greenberg, occurs before the head noun it modifies.

The adverbial modifiers, such as negative markers (3a), degree modifiers (3b), or event modifiers (3c), always precede the predicate as exemplified below.

(3) a. *Ngai* *n* *sa* *nngai.*
ŋai$_{33}$ n$_{33}$ sa$_{33}$ n$_{31}$ŋai$_{33}$
1SG not come/go SFP|1SG[SUBJ]-DECL
'I won't come/go' (Xu, *et al* 1983:543)

b. *Begyin* *mære* *go* *grai* *gaba* *ai.*
Pe$_{31}$kjin$_{33}$ mă$_{31}$ʒe$_{33}$ ko$_{31}$ kʒai$_{31}$ kă$_{31}$tʃa$_{33}$ ai$_{33}$
Beijing city TOP very big SFP|3SG[SUBJ]:DECL
'The city of Beijing is very big.' (Dai and Xu 1992:19)

c. *Anhte* *masum* *lang* *hti* *saga ai.*
an$_{55}$t^{h}e$_{33}$ mă$_{31}$sum$_{33}$ la̲ŋ$_{31}$ t^{h}i$_{55}$ să$_{55}$ka$^{?}{}_{55}$ai$_{33}$
1PL three time read SFP|COS-1PL[SUBJ]-DECL
'We have read (it) for three times.' (Dai & Xu 1992:125)

---

i *Hkahkong* *e* *nga* *rong* *chye* *ai.*
k^{h}a$^{?}{}_{31}$k^{h}oŋ$_{31}$ e$_{31}$ ŋa$_{55}$ ʒoŋ$_{33}$ tʃe̲$_{33}$ ai$_{33}$
ditch in fish have MOD.EPS SFP|3SG[SUBJ]:DECL
'There may be some fish in the ditch.' (Lee 2003:174)

ii *Hkahkong* *e* *nga* *chye* *rong* *ai.*
k^{h}a$^{?}{}_{31}$k^{h}oŋ$_{31}$ e$_{31}$ ŋa$_{55}$ tʃe̲$_{33}$ ʒoŋ$_{33}$ ai$_{33}$
ditch in fish MOD.EPS have SFP|3SG[SUBJ]:DECL
'There may be some fish in the ditch.' (Lee 2003:174)

As shown above, the modal auxiliary *chye* can occur to both sides of the main verb. Lee's (2003) analysis treats the preverbal modal *chye* as forming a verbal compound with the lexical verb *rong* 'have'. On the other hand, the postverbal modal *chye* akin to *na* in (2a) acts as an auxiliary which takes the whole VP *hkahkong e nga rong* as its complement. The thesis assumes such analysis and only considers the postverbal modals as the true auxiliaries. The preverbal modals are taken to have been incorporated to the left of the main verb in the same fashion as the verb incorporation in the spirit of Baker (1988).

[23] Note that this is not the only way of question-forming in Jingpo. See next section for a less analytic means to encode the interrogative force in the language. But no matter how the interrogative morpheme is realized, it constantly occurs at the clause-peripheral domain.

[24] This is an instance when the SFP *sai* introduces an embedded clause. See Section 4.5 for more details about the embedded SFPs.

The main predicate, either a verb as in (3a) and (3c) or a predicative adjective (3b), is always the last lexical element of a clause. The only elements occurring after are the functional categories such as modals, auxiliaries, sentence final particles (henceforth SFPs), evidential markers, and discourse particles, etc., which constitute the focus of the next chapter.

Now let us turn to the nominal domain. Jingpo is regarded as a classifier language (Cheung 2003a, 2003b, 2004, 2006, 2007, Gu 2004c, 2009, *inter alia*) despite the fact that its classifier system is far less developed than other well-studied classifier languages. To name one thing, unlike the rich classifier languages such as Chinese, classifiers in Jingpo are not obligatory for countable nouns.[25] The noun phrases have the basic order Noun-Classifier-Numeral, illustrated as follows:[26]

(4) a. *masha* *langai*
mă$_{31}$ʃa$_{31}$ lă$_{55}$ŋai$_{51}$
person one
'one person' (Dai and Diehl 2003:408)

b. *ntsin* **(palin)* *mi*
n$_{31}$tsin$_{33}$ pă$_{55}$lin$_{55}$ mji$_{33}$
water CL^{bottle} one

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[25] Count nouns without classifiers are always acceptable in Jingpo, though sometimes the meaning may change if what is missing is a collective classifier or a measure word. See Section 3.3.1.3 for a detailed discussion of the optionality of Jingpo classifiers.

[26] The two ones, namely, *langai* in (4a) and *mi* in (4b) were both regarded as the cardinal number one by the traditional grammarians (Dai and Xu 1992). However, the two are different from each other in at least one aspect, i.e. their distributional patterns. For instance, they can co-occur with each other, as shown in i:

i *yupku* *langai* *mi*
jup$_{55}$ku$_{31}$ lă$_{55}$ŋai$_{51}$ mji$_{33}$
bed one one
'a bed' (Dai and Xu 1992:97)

When they co-occur, however, there is a fixed ordering between the two: *mi* must occur to the right of *langai*.

ii **yopku* *mi* *langai*
jup$_{55}$ku$_{31}$ mji$_{33}$ lă$_{55}$ŋai$_{51}$
bed one one
(Int.) 'a bed'

Gu (2009) analyzes the two ones as instantiations of the heads of different functional projections, to be discussed in more detail in Section 3.3.1.4.

'a bottle of water' (Dai and Diehl 2003:408)

As shown in the above examples, the numerals always follow the head nouns. Since the classifiers in Jingpo are not obligatory, unlike in typical classifier languages such as Chinese, the numerals can be applied directly to count nouns (4a) and the classifiers are only necessary for mass nouns (4b).

The word order in Jingpo nominal domain, compared to the word order in its clausal domain, seems to enjoy more freedom at first sight. Adjectives can occur either before or after the noun, illustrated as follows:[27]

(5) a. *hpun* *gaba*
p^{h}un$_{55}$ kă$_{31}$pa$_{31}$
tree big
'(a/the) big tree' (Dai and Xu 1992:88)

b. [*gaba* *ai*] *hpun*
kă$_{31}$pa$_{31}$ ai$_{33}$ p^{h}un$_{55}$
big SFP|3SG[SUBJ]:DECL tree
'(a/the) big tree' (Dai and Xu 1992:88)

Usually Jingpo adjectives occur postnominally (5a) unless they are followed by the morpheme *ai*.[28] In the latter case, the adjective together with *ai* has to precede the head noun (5b). To put it another way, adjectives cannot immediately precede the noun they are modifying; rather, the SFP *ai* must be inserted.[29] In Section 6.2.2 I

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[27] Since Jingpo is a determinerless language, the bare nouns with or without modifiers can be either definite or not. For a detailed discussion of the referential properties of Jingpo bare nouns see Section 3.3.1.1.

[28] The morpheme *ai* is another SFP that can introduce an embedded clause, as further illustrated below:

i [*ngai* *mari* *ai*] *laika*
ŋai$_{33}$ mă$_{31}$ʒi$_{33}$ ai$_{33}$ lai$_{31}$ka$_{33}$
1SG buy SFP|3SG[SUBJ]:DECL book
'(the) book that I bought' (Dai and Xu 1992:6)

Gu (2005) argues that *ai* and *sai* (recall (2b)) are the only SFPs that can introduce relative clauses in Jingpo. For a comprehensive discussion of Jingpo SFPs, see Section 4.3.

[29] The prenominal adjectives can also be followed by *sai* with a slight change of meaning, as illustrated below. The morpheme *s-* in the SFP adds a change-of-state meaning to the adjective *gaba*.

i [*gaba* *sai*] *hpun*
kă$_{31}$pa$_{31}$ sai$_{33}$ p^{h}un$_{55}$
big SFP|COS-3SG[SUBJ]:DECL tree
'(a/the) tree that has become bigger'

argue that the postnominal adjective in (5a) is an X^0 element which projects an XP, whereas the prenominal adjective in (5b) is a phrasal element which occupies the specifier position of that XP. In this case the fact that adjectives may occur prenominally in Jingpo does not reject the claim that Jingpo is a strict head-final language. The prenominal and postnominal adjectives are merged to different positions of the same projection. The theoretical and empirical advantages of such analysis can also be found in Chapter 6.

The picture becomes more perplexing when the demonstratives are taken into consideration. Jingpo demonstratives have both singular and plural forms, and they behave quite differently in terms of word order. A singular demonstrative can be on either side of the entire DP or it may immediately follow the head noun, whereas a plural demonstrative is restricted to the rightmost side of a nominal phrase. Examples are given below:[30]

(6) a. *ndai* *n-gu* *kyin* *masum*
n$_{33}$tai$_{33}$ n$_{33}$ku$_{33}$ kjin$_{33}$ mă$_{31}$sum$_{33}$
this rice CL^{catty} three
'these three catties of rice' (Liu and Gu 2009:281)

b. *n-gu* *kyin* *masum* *ndai*
n$_{33}$ku$_{33}$ kjin$_{33}$ mă$_{31}$sum$_{33}$ n$_{33}$tai$_{33}$
rice CL^{catty} three this
'these three catties of rice' (Liu and Gu 2009:281)

c. *n-gu* *ndai* *kyin* *masum*
n$_{33}$ku$_{33}$ n$_{33}$tai$_{33}$ kjin$_{33}$ mă$_{31}$sum$_{33}$
rice this CL^{catty} three
'these three catties of rice' (Liu and Gu 2009:290)

Semantically the resultant noun phrase is not an exact correspondence of the [N+A] sequence any more. This further shows that the prenominal adjectives are in fact reduced relatives. See Section 4.3.3 for a discussion of the change-of-state function encoded by the Jingpo SFPs.

[30] Just as in Chinese, the plural marker *-hte* in Jingpo is incompatible with the numeral, to be discussed in detail in Section 3.3.1.5.

d. *n-gu* *kyin* *ndaihte*
$n_{33}ku_{33}$ $kj\underline{i}n_{33}$ $n_{33}tai_{33}t^{h}e_{33}$
rice CL^{catty} this-PL
'these catties of rice' (Liu and Gu 2009:286)

e.**ndaihte* *n-gu* *kyin*
$n_{33}tai_{33}t^{h}e_{33}$ $n_{33}ku_{33}$ $kj\underline{i}n_{33}$
this-PL rice CL^{catty}
(Int.) 'these catties of rice'

f.**n-gu* *ndaihte* *kyin*
$n_{33}ku_{33}$ $n_{33}tai_{33}t^{h}e_{33}$ $kj\underline{i}n_{33}$
rice this-PL CL^{catty}
(Int.) 'these catties of rice' (Liu and Gu 2009:281)

Based on a detailed investigation of the Jingpo nominal structure, Liu and Gu (2009) propose that the singular demonstratives fall into two types, namely D-type and A-type. It is the latter that gives rise to the relative freer distribution. The plural demonstratives, on the other hand, are exclusively of the D-type. The two types of demonstratives are argued to occupy different syntactic slots with the D-type being higher in structure than the A-type. A syntactic analysis of Jingpo demonstratives can be found in Section 6.3.1, where following Liu and Gu (2009) I also argue against a unified theory of Jingpo demonstratives. The D-type demonstratives are functional head elements and merged to a higher position in the noun phrase structure, whereas the A-type demonstratives can be either head or phrasal elements and enjoy a relatively free distribution.

To sum up, Jingpo is a strictly head-final language. In the clausal domain, it exhibits a clear SOV word order and all the functional categories occur after the lexical ones. In the nominal domain, it shows a strict N-Cl-Num order, a mirror image of Chinese noun phrases (Cheung 2003a, 2003b). At first sight the existence of preverbal modals, prenominal adjectives and prenominal demonstratives are counterexamples. However, if we take a closer look at them, they are not real

exceptions to the head-final word order. The preverbal modals are argued to be incorporated to the head V (Lee 2003); the prenominal adjectives are phrasal categories and occupy the specifier position of a functional projection (see Section 6.2.2), and the prenominal demonstratives are exclusively of the A-type (Liu and Gu 2009), not heads at all (see Section 6.3.1). In the thesis I take the Jingpo word order as strictly head-final in both clausal and nominal domains.

3.2.2 Morphological typology

In terms of morphological typology, there is a three-way division of world's languages into inflectional (aka fusional), analytic (aka isolating) and agglutinating (Bauer 2003). Analytic languages refer to those that do not make use of inflection to express syntactic relations; instead they make use of independent grammatical units and word order. A pure analytic language would contain no obligatorily bound morphs, so all words would be invariable for lexical as well as functional categories. Agglutinating languages, on the other hand, refer to those in which individual morphemes have a single semantic meaning and are juxtaposed. That is to say, a pure agglutinating language would have obligatorily bound morphs, each realizing a single morpheme and unambiguously corresponding to a single meaning or grammatical function. The morphemes are simply connected linearly, so ideally the obligatorily bound morphs should appear with precisely the same form throughout the morphological operation. Inflectional languages, on the other hand, refer to those in which no simple one-to-one correspondence between morphs and morphemes can be found. They may or may not have obligatorily bound morphs, since an exact segmentation of morphs is not always possible.

Despite the simple terminology, Bauer (2003) admits that there are very few pure types, if any. There is no good reason to think of languages as falling into one of

the three clear-cut types in terms of the morphological typology. A language may exhibit mixed morphological properties commonly found in different language types. For instance, there are two ways of asking questions in Jingpo, as exemplified below in (7a) and (7b) respectively.

(7) a. *Shi* *wa* *sai* *i?*
ʃi$_{33}$ wa$_{31}$ sa$_{33}$ i$_{51}$
3SG return SFP|COS:3SG[SUBJ]-DECL Q
'Has he/she returned home?'

b. *Shi* *wa* *sani?*
ʃi$_{33}$ wa$_{31}$ sǎ$_{55}$ni$_{51}$
3SG return SFP|COS:3SG[SUBJ]-Q
'Has he/she returned home?'

The interrogative particle *i* in (7a) is an independent functional word (see Section 4.2.2) whereas the final part of the SFP, i.e. *-ni* in (7b), though it also marks the interrogative force (see Section 4.3.1), is agglutinated with other morphemes and hence is less analytic than *i*. This can be evidenced by the fact that while *i* can be separated from the SFP by an evidential marker (8a) nothing can be inserted into an interrogative SFP *sani* (8b).

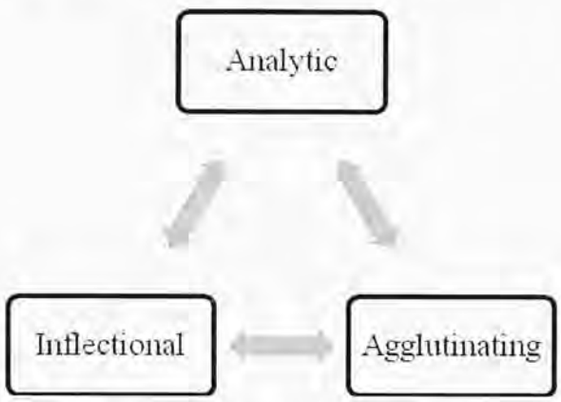
(8) a. *Shi* *wa* *sai* *(da/nhten)* *i?*
ʃi$_{33}$ wa$_{31}$ sa$_{33}$ ta$^{?}_{31}$/ n$_{55}$t^{h}en$_{55}$ i$_{51}$
3SG return SFP|COS:3SG[SUBJ]-DECL EVD.QOT/PRS Q
'Has he/she returned home?'/ 'Do people say that he/she has returned home?'/ 'Is it possible that he/she has returned home?'

b. *Shi* *wa* *sa* *(*da/hten)* *ni?*
ʃi$_{33}$ wa$_{31}$ sǎ$_{55}$ ta$^{?}_{31}$/ n$_{55}$t^{h}en$_{55}$ ni$_{51}$
3SG return SFP|COS:3SG[SUBJ] EVD.QOT/PRS Q
'Has he/she returned home?'/ (Int.) 'Do people say that he/she has returned home?'/ (Int.) 'Is it possible that he/she has returned home?'

The prefinal part of each SFP, on the other hand, is inflectional as it often encodes multiple grammatical functions (see Section 4.3), as indicated in the glosses, and it is impossible to get a one-to-one correspondence between form and meaning.

As we can see, Jingpo shares the morphological properties with all three types of languages, namely, analytic, agglutinating and inflectional languages. Based on this fact, it is more feasible to regard the three morphological types as a continuum instead of having any clear-cut boundary in-between. Such a continuum, represented in (9) below, provides room for diachronic studies as language change may happen from one type to another and also indicates that languages may locate themselves at any point on the bidirectional circle.

(9)



As noted, Jingpo has been argued to be undergoing a process of analyticity. It has been changing from an inflectional language to an agglutinating language, and is now on its way to an analytic language.[31] Note that though the thesis mainly focuses on the synchronic behavior of Jingpo, from time to time I may touch upon some diachronic issues because this is indeed inevitable given that Jingpo is such a mixed language in terms of morphological typology.

3.2.3 The pro drop

Jingpo also allows *pro* drop, just as its neighboring languages do. On the one hand it patterns with non-configurational languages as Navajo which allows both subjects and objects to be omitted because their contents can be recovered from the

[31] Cole (2010) reports another type of natural language change which moves in an opposite direction of the continuum (9), i.e. from agglutinating language to inflectional language. This further confirms the bidirectionality of the continuum.

agreement morphemes in the SFPs, as exemplified below.

(10) *(Diné)* *('ashkii)* *yiyiiltsà* – Navajo
man boy 3SG[OBJ]:3SG[SUBJ]:PAST:see
'(The man) saw (the boy).' (Jelinek 2006:262)

Likewise, Jingpo also allows optional occurrence of arguments. The examples are given as follows.[32] With the presence of agreement morphemes in the SFPs, both the subject and the object can be freely dropped without affecting the meaning.[33]

(11) a. *Shi* *nang* *hpe* *grai* *garum* *nit dai.*
ʃi$_{33}$ naŋ$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ nit$_{31}$tai$_{33}$
3SG 2SG OM very help SFP|3[SUBJ]:2SG[OBJ]-DECL
'He/She helped you a lot.'

b. *Nang* *hpe* *grai* *garum* *nit dai.*
naŋ$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ nit$_{31}$tai$_{33}$
2SG OM very help SFP|3[SUBJ]:2SG[OBJ]-DECL
'(He/She) helped you a lot.'

c. *Shi* *grai* *garum* *nit dai.*
ʃi$_{33}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ nit$_{31}$tai$_{33}$
3SG very help SFP|3[SUBJ]:2SG[OBJ]-DECL
'He/She helped (you) a lot.'

d. *Grai* *garum* *nit dai.*
kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ nit$_{31}$tai$_{33}$
very help SFP|3[SUBJ]:2SG[OBJ]-DECL
'(He/She) helped (you) a lot.'

In (11a), both the subject and the object are present, but neither of them is obligatory as shown in (11b-d) where the subject (11b), the object (11c), or both (11d) can be omitted. All the sentences above nevertheless have the same meaning. The

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[32] The morpheme *hpe* has been traditionally analyzed as an "animate object marker" (Dai and Xu 1992) and is obligatorily used after animate objects. However, such an analysis oversimplifies the use of *hpe* in the language. Gu (2004a) scrutinizes this morpheme closely and concludes that it is a newly emerged object marker. In the thesis I further explore this issue and take *hpe* as a differential object marker as it marks specificity as well. For more details, see Section 6.3.3.

[33] The examples (11b) and (11d) are ambiguous between a third person singular subject and a third person plural subject, though, as the SFP *nit dai* does not encode the number features of subjects. For a more comprehensive discussion of (partial) object agreement, see Section 4.3.2.2.

information about the missing subject and/or object is encoded in the SFP *nit dai* together with other grammatical functions. This SFP indicates that the subject in the sentence refers to a third person and the object refers to a second person singular.

Although Jingpo has overt agreement morphology, in recent years, due to the simplification of its agreement system, it tends to behave more like a radical (i.e. context-based) *pro* drop language (in Neeleman and Szendröi's 2007 terminology) like Chinese, exemplified in (12) below, which allows both subjects and objects to be omitted because their contents can be recovered from the discourse.[34]

(12) *(Zhangsan)* *kanjian* *(Lisi)* *le* – Chinese
Zhangsan see Lisi SFP
'(Zhangsan) saw (Lisi).'

In modern Jingpo, there is a tendency among speakers to generalize the SFPs *ai* and *sai* which are traditionally argued to encode third person singular subject agreement. The examples are given as follows.

(13) a. *(Ngai)* *grai* *tso* *ai/sai.*
ŋai$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$/sai$_{33}$
1SG very tall SFP|3SG[SUBJ]:DECL/COS:3SG[SUBJ]-DECL
'(I) am very tall/(I) have become very tall.'

b. *(Anhte)* *grai* *tso* *ai/sai.*
an$_{55}$t^{h}e$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$/sai$_{33}$
1PL very tall SFP|3SG[SUBJ]:DECL/COS:3SG[SUBJ]-DECL
'(We) are very tall/(We) have become very tall.'

The SFPs *ai* and *sai* were traditionally thought to agree with a third person singular subject (Dai and Xu 1992). However, as shown in the above examples, they can be used in a sentence with a first person singular (13a) or plural (13b) subject. Both subjects in (13), intriguingly, can be omitted, and the resulting sentences are still acceptable as long as the hearer can get the correct reference from the context. In Section 4.3.2.4 I discuss the simplification of Jingpo agreement system in more

[34] See Huang (1984a) and Huang (1989) for different syntactic analyses of the radical *pro* drop in Chinese.

detail. For the time being, suffice it to say that Jingpo makes use of two different means, i.e. agreement morphemes and the discourse, to license implicit arguments.[35]

3.3 Previous studies on Jingpo noun phrase structure

This chapter presents the readers with the syntactic structure of the Jingpo noun phrase. The presentation shows that Jingpo displays bare nouns in a variety of contexts where other languages, e.g. Romance and Germanic languages, require a determined noun. The sequence of nouns, classifiers and numerals always exhibits a fixed order. Since its classifier system is still under development, the language currently makes use of two ways to partition nouns, namely, the classifier strategy and the N-to-Cl movement strategy. Thus the classifiers of count nouns in Jingpo can be freely omitted. Though Jingpo allows bare nouns to occur in argumental positions, two elements are reported to mark definiteness along with other grammatical functions: the singular indefinite marker *mi* and the plural definite marker *ni/-hte*. Finally I review and evaluate the previous studies on the distribution of various types of modifiers in Jingpo complex nouns, including adjectives and

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[35] Neeleman and Szendröi (2007) relate the distinction between agreement-based *pro* drop and radical *pro* drop to morphology and propose that the latter only occurs in languages where pronouns are agglutinating, rather than inflected, for various grammatical functions. Note that Neeleman and Szendröi (2007) do not distinguish agglutinating morphology from analytic morphology in their work and they claim that Chinese pronouns are agglutinating for case, number, etc. Due to the ongoing morphological change, Jingpo currently allows both inflectional and non-inflectional (agglutinating or analytic) means to mark the Genitive Case in pronouns, as shown in the following table.

i The General and Genitive singular pronouns in Jingpo

Singular	1st	2nd	3rd
General	*ngai*	*nang*	*shi*
Genitive (inflectional)	*nye*	*na*	*shi*
Genitive (non-inflectional)	*ngai a*	*nang a*	*shi a*

Following Neeleman and Szendröi's (2007) analysis, the fact that Jingpo is undergoing an evolutionary change from an agreement-based *pro* drop language to a discourse-based *pro* drop language can be regarded as a byproduct of the analyticity process.

demonstratives.

3.3.1 Simplex noun phrases

In this section I present the structure and peculiar properties of simplex noun phrases in Jingpo. I start from the bare nouns and their referential properties, and then move to the fixed sequence N-Cl-Num of Jingpo nominals. I show that unlike typical classifier languages, Jingpo allows the absence of classifiers. Next I review Gu's (2009) recent study on the two Jingpo morphemes *langai* and *mi*, both were traditionally glossed as the cardinal number one. By the end of the section I discuss the two plural markers *-hte* and *ni*.

3.3.1.1 Bare nouns and referentiality

A notable property of Jingpo and its neighboring Sino-Tibetan languages is that they can use bare noun phrases in all contexts. This is illustrated by the bare noun *namsi* 'fruit', highlighted in (14a) and (14b) below.

(14)a. *Namsi* *hkye hkye* *rai* *mat* *sai.*
nam$_{31}$si$_{31}$ k^{h}je$_{33}$k^{h}je$_{33}$ ʒai$_{55}$ mat$_{31}$ sai$_{33}$
fruit red-RED COP AUX SFP|COS:3SG[SUBJ]-DECL
'A/The fruit(s) became reddish.' (Dai and Xu 1992:89)

b. *Namsi* *myin* *hkra* *she* *sha* *na.*
nam$_{31}$si$_{31}$ mjin$_{33}$ k^{h}ʒa$_{31}$ ʃe$^{?}_{31}$ ʃa$_{55}$ na$_{33}$
fruit ripe AUX then eat AUX.FUT
'Eat (the) fruit(s) only when it is/they are ripe.' (Dai and Xu 1992:151)

In (14a), the bare noun *namsi* 'fruit' functions as a subject and the sentence is a felicitous reply to the question "what happened?" It can be interpreted as definite or indefinite, with its number information being unspecified. In (14b), *namsi* can also be interpreted as definite or indefinite, singular or plural. What is more, it can be interpreted as generic in a context where it refers to a whole kind. In Jingpo bare nouns can be interpreted as definite if they are contextually prominent and/or known to the discourse participants. The examples in (14) show that Jingpo generally allows

determinerless noun phrases in contexts where English-type languages require a DP that includes a determiner (see the glosses).

The Jingpo bare nouns may occur in various syntactic positions and can therefore be focused[36] (15a), topicalized (15b), or used as the objects of postpositions (15c).

(15)a. *Gui* *e* *shan* *sha* *kau* *nu ai.*
kui$_{33}$ e$_{31}$ ʃan$_{31}$ ʃa$_{55}$ kau$_{55}$ nu$^{ʔ}_{55}$ai$_{33}$
dog FOC meat eat AUX SFP|COS:3SG[SUBJ]:3[OBJ]-DECL
'It is (a/the) dog(s) that has/have eaten up all the meat.'

b. *Gui* *go* *shi* *n* *ra* *ai.*
kui$_{33}$ ko$_{31}$ ʃi$_{33}$ n$_{33}$ ʒa$^{ʔ}_{31}$ ai$_{33}$
dog TOP 3SG not like SFP|3SG[SUBJ]:DECL
'As for (the) dog(s), he doesn't like it/them.'

c. *Shi* *nta* *ko* *chyu* *la* *nga* *ai.*
ʃi$_{33}$ n$_{55}$ta$_{51}$ ko$^{ʔ}_{55}$ tʃu$_{33}$ la$_{31}$ ŋa$_{31}$ ai$_{33}$
3SG house in alone wait ASP.IMPF SFP|3SG[SUBJ]:DECL
'He is waiting in the house alone.'

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[36] The morpheme *e* was traditionally analyzed as an agent marker (Dai and Xu 1992:262-263) usually used after a displaced agentive subject. However, by close examination of its behavior, I contend that it cannot be simply analyzed as marking agentivity. First of all, it is unnecessarily restricted to agents (i). Secondly, it differs from the object marker *hpe* in that it cannot be topicalized (ii and iii).

i. *Labu* *hpe* *marang* *e* *htu* *madit* *kau* *nu ai.*
lā$_{31}$pu$_{31}$ p^{h}e$^{ʔ}_{55}$ mā$_{31}$ʒaŋ$_{33}$ e$_{31}$ t^{h}u$^{ʔ}_{31}$ mā$_{31}$tit$_{31}$ kau$_{55}$ nu$^{ʔ}_{55}$ai$_{33}$
pant OM rain FOC fall make wet AUX SFP|COS:3SG[SUBJ]:3[OBJ]-DECL
'The rain fell and wetted my pants.' (Dai 2006:36)

ii. *Labu* *hpe* *go* *marang* *e* *htu* *madit* *kau* *nu ai.*
lā$_{31}$pu$_{31}$ p^{h}e$^{ʔ}_{55}$ ko$_{31}$ mā$_{31}$ʒaŋ$_{33}$ e$_{31}$ t^{h}u$^{ʔ}_{31}$ mā$_{31}$tit$_{31}$ kau$_{55}$ nu$^{ʔ}_{55}$ai$_{33}$
pant OM TOP rain FOC fall make wet AUX SFP|COS:3SG[SUBJ]:3[OBJ]-DECL
'As for my pants, the rain fell and wetted (them).'

iii. **Marang* *e* *go* *labu* *hpe* *htu* *madit* *kau* *nu ai.*
mā$_{31}$ʒaŋ$_{33}$ e$_{31}$ ko$_{31}$ lā$_{31}$pu$_{31}$ p^{h}e$^{ʔ}_{55}$ t^{h}u$^{ʔ}_{31}$ mā$_{31}$tit$_{31}$ kau$_{55}$ nu$^{ʔ}_{55}$ai$_{33}$
rain FOC TOP pant OM fall make wet AUX SFP|COS:3SG[SUBJ]:3[OBJ]-DECL
(Int.) 'As for the rain, (it) fell and wetted my pants.'

Dai (2006) revisits the discussion of *e* and suggests that its grammatical function be focalize the agent, more precisely, the external argument. According to this view the difference between ii and iii hence can be accounted for because the focalized material introducing new information is by nature incompatible with topicalization where the background information locates (see Section 2.3.2.1 for the distinction between focus and topic).

The head nouns *gui* 'dog' in (15a) and (15b) and *nta* 'house' in (15c) also occur as bare, in the sense that they do not embed a determiner. We can conclude that Jingpo bare nouns can occur in all canonical syntactic positions for nominals. They can also include modifiers, such as possessives in (16a) and (16b) and relatives in (16c).

(16)a. *anhte* *a* *nta*
an$_{55}$t^{h}e$_{33}$ a$^{?}_{31}$ n$_{55}$ta$_{51}$
1PL GEN house
'our house(s)'

b. *jong* *na* *nta*
tʃoŋ$_{31}$ na$_{55}$ n$_{55}$ta$_{51}$
school of house
'school building(s)'

c. [*masha* *hpe* *gawa* *ai*] *gui*
mă$_{31}$ʃa$_{31}$ p^{h}e$^{?}_{55}$ kă$_{31}$wa$_{55}$ ai$_{33}$ kui$_{33}$
person OM bite SFP|3SG[SUBJ]:DECL dog
'(a/the) dog(s) that bite(s) people'

As clear from these examples, Jingpo bare noun phrases have no specifications about definiteness, specificity or plurality. Accordingly, they can be interpreted as generic, definite, or indefinite depending on the context.

3.3.1.2 The fixed order N-Cl-Num

The sequence of nouns, classifiers and numerals exhibits a fixed order N-Cl-Num. Any other ordering among these three elements is impossible, as illustrated below.

(17) a. *udi* *hkum* *sanit*
u$_{31}$ti$_{31}$ k^{h}um$_{31}$ să$_{31}$nit$_{31}$
egg CL seven
'seven eggs'

b. **udi* *sanit* *hkum*
u$_{31}$ti$_{31}$ să$_{31}$nit$_{31}$ k^{h}um$_{31}$
egg seven CL
(Int). 'seven eggs'

c. **hkum* *udi* *sanit*
k^hum_{31} $u_{31}ti_{31}$ $sǎ_{31}nit_{31}$
CL egg seven
(Int). 'seven eggs'

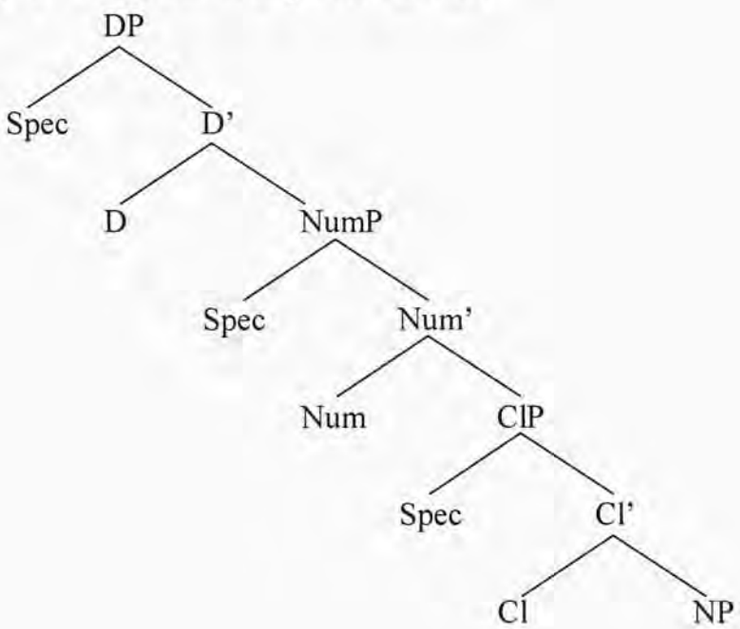
d. **hkum* *sanit* *udi*
k^hum_{31} $sǎ_{31}nit_{31}$ $u_{31}ti_{31}$
CL seven egg
(Int). 'seven eggs'

e. **sanit* *hkum* *udi*
$sǎ_{31}nit_{31}$ k^hum_{31} $u_{31}ti_{31}$
seven CL egg
(Int). 'seven eggs'

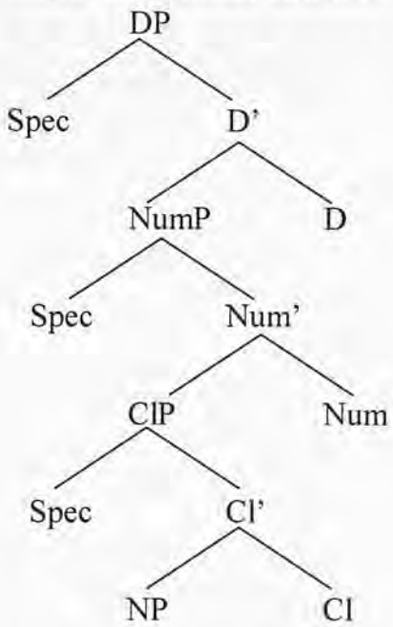
f. **sanit* *udi* *hkum*
$sǎ_{31}nit_{31}$ $u_{31}ti_{31}$ k^hum_{31}
seven egg CL
(Int). 'seven eggs'

Cheung (2003a, 2003b) reports that the Jingpo nominal word order is a mirror image of the ordering in Chinese noun phrases proposed by Tang (1990a, 1990b). The relevant structures are diagrammed below:

(18) a. Mandarin noun phrase structure



b. Jingpo noun phrase structure



Tang's analysis of Mandarin noun phrase structure (18a) predicts the correct nominal word order in Mandarin. It can also attribute the agreement relation held between the classifier and the head noun as well as the obligatoriness of classifiers to the selectional property of Cl and Num respectively. In Mandarin Num obligatorily selects a ClP and Cl obligatorily agrees with its complement. One problem of extending the same analysis of Mandarin noun phrase structure to Jingpo (18b) is that Jingpo as a less developed classifier language does not require a classifier in each noun phrase, to be discussed in the next section.

3.3.1.3 The optionality of classifiers

The classifier system in Jingpo is far less developed than the classifier systems in its neighboring languages. It is less developed in two senses. First of all, not every noun has a corresponding classifier. Secondly, the presence of classifiers before a certain group of nouns is not obligatory. The noun phrases in Jingpo show similarities with both English and Chinese. Like in English, count nouns can be counted by putting the numeral directly after the noun (19a) but mass nouns can only be counted with the help of something else such as a measure word (19b).

(19) a. *laika* *lahkong*
lai$_{31}$ka$_{33}$ lă$_{55}$k^{h}oŋ$_{51}$
book two
'two books'

b. *ntsin* **(gom)* *lahkong*
n$_{31}$tsin$_{33}$ kom$_{33}$ lă$_{55}$k^{h}oŋ$_{51}$
water CL^{glass} two
'two glasses of water'

On the other hand, like in Chinese, count nouns can also be followed by classifiers. The only difference between the two languages is that the use of classifiers is not necessary for Jingpo count nouns, as illustrated in the following examples.

(20) a. *laika* *(buk)* *lahkong*
lai$_{31}$ka$_{33}$ puk$_{31}$ lă$_{55}$k^{h}oŋ$_{51}$
book CL two
'two books'

b. *masha* *(marai)* *lahkong*
mă$_{31}$ʃa$_{31}$ mă$_{31}$ʒai$_{33}$ lă$_{55}$k^{h}oŋ$_{51}$
person CL two
'two persons'

Borer (2005) closely investigates the functional structure of DPs and claims that all nouns in all languages are mass. The count-mass distinction is not lexically encoded; rather, such distinction can only be captured when the noun enters syntax. Hence above NP there is a crucial functional projection named ClP headed by Cl which helps portion the noun out. The noun is not countable until it gets partitioned by Cl. Above ClP, there are #P (i.e. quantity phrase) and DP respectively. The #P accommodates numerals, and the DP, the highest projection within the nominal domain, defines referential properties for the noun. The whole DP structure is represented as follows.

(21) [$_{DP}$ [$_{\#P}$ [$_{ClP}$ [$_{NP}$ noun]]]]

Borer hence reduces language variation to the functional component. Based on her analysis, a classifier language like Chinese and a language with plural morphology

like English differ from each other only in terms of the functional head Cl. In Chinese, a classifier is obligatorily merged to the head Cl position in order to partition the noun. English, on the other hand, does not have a classifier system, and it is the plural marker that occupies the head position of ClP.

Following Borer's (2005) analysis on DP, Gu (2009) argues that as its classifier system is newly developed, Jingpo currently makes use of two ways, i.e. Move or Merge, to portion out nouns, illustrated respectively as follows:

(22) a. $[_{DP}\ [_{\#P}\ [_{ClP}\ [_{NP}\ \sout{\text{noun}}]\ \text{noun}]]]$

N-to-Cl Movement

b. $[_{DP}\ [_{\#P}\ [_{ClP}\ [_{NP}\ \text{noun}]\ \text{classifier}]]]$

Merge

Hence in Jingpo in order for a noun to be countable, either the noun is moved up to Cl (22a), or a classifier is directly merged to the head Cl position (22b). Both operations are currently active in the language. With the development of classifier system in Jingpo,[37] directly merging a classifier will be more frequently applied than N-to-Cl movement.

Unlike other classifier languages such as Mandarin or Cantonese which allow the numeral number to optionally occur if the noun denotes a singular number, the N-Cl sequence without a numeral number is disallowed in Jingpo regardless of whether it occurs in the subject or object position.

(23) a. *Ta* *mai-le* (*yi*) *ben* *shu.* – Mandarin
3SG buy-PERF one CL book
'He bought a book.'

[37] The emergence of the classifier system can also be viewed as a consequence of the analyticity process currently undertaken in Jingpo.

b. *Zhe (yi) ben shu hen gui.* – Mandarin
this one CL book very expensive
'This book is expensive.'

c. **Ben shu hen gui.* – Mandarin
CL book very expensive
(Int.) 'The book is expensive.'

(24) a. *Keoi maai-zo (jat) bun syu.* – Cantonese
3SG buy-PERF one CL book
'He bought a book.'

b. *Nei (jat) bun syu hou gwai.* – Cantonese
this one CL book very expensive
'This book is expensive.'

c. *Bun syu hou gwai.* – Cantonese
CL book very expensive
'The book is expensive.'

(25) a. *Shi laika buk *(mi) mari ai.*
ʃi$_{33}$ lai$_{31}$ka$_{33}$ puk$_{31}$ mji$_{33}$ mă$_{31}$ʒi$_{33}$ ai$_{33}$
3SG book CL one buy SFP|3SG[SUBJ]:DECL
'He bought a book.'

b. *Ndai laika buk *(mi) grai hpu ai.*
n$_{33}$tai$_{33}$ lai$_{31}$ka$_{33}$ puk$_{31}$ mji$_{33}$ kʒai$_{31}$ p^{h}u$_{33}$ ai$_{33}$
this book CL one very expensive SFP|3SG[SUBJ]:DECL
'This book is expensive.'

c. **Laika buk mi grai hpu ai.*
lai$_{31}$ka$_{33}$ puk$_{31}$ mji$_{33}$ kʒai$_{31}$ p^{h}u$_{33}$ ai$_{33}$
book CL one very expensive SFP|3SG[SUBJ]:DECL
(Int.) 'The book is expensive.'

As shown in the above examples, the numeral number one in both Mandarin (23) and Cantonese (24) can be omitted. In Jingpo, on the other hand, the omission of *mi* 'one' is impossible in either subject or object position as long as a classifier is merged with the noun (25a-c).[38]

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[38] When both the classifier and the numeral number one are absent, the sentences are grammatical as shown below.

i. a. *Shi laika mari ai.*
ʃi$_{33}$ lai$_{31}$ka$_{33}$ mă$_{31}$ʒi$_{33}$ ai$_{33}$
3SG book buy SFP|3SG[SUBJ]:DECL

Note that Mandarin differs from Cantonese in that only the former, not the latter, disallows the Cl-N sequence, regardless of whether the singular numeral number is omitted or not, to occur in a subject position without the presence of a demonstrative (23c). In contrast, without the demonstrative *nei*, the Cantonese noun phrase *bun syu* in (24c) lacks the deictic information, but it is by all means grammatical, meaning 'the book'. The obligatoriness of demonstratives in Mandarin is due to the general constraint that an indefinite nominal expression cannot appear in subject position (Huang, Li and Li 2009). The same constraint also holds in Cantonese and Jingpo. The differences between Mandarin and Jingpo on the one hand and Cantonese on the other lie in the ability of Cantonese classifiers to carry the [+definite] feature.

3.3.1.4 The two ones – langai and mi

It has long been argued by the traditional grammarians (Dai and Xu 1992, *inter alia*) that in Jingpo there are two morphemes corresponding to the cardinal number one, namely *langai* and *mi*. Both of them are restricted to singular nouns and when they co-occur *mi* is always at the right side of *langai*.

(26) a. *laika* *langai* *mi*
lai$_{31}$ka$_{33}$ lā$_{55}$ŋai$_{51}$ mji$_{33}$
book one one
'a book'

b.* *laika* *mi* *langai*
lai$_{31}$ka$_{33}$ mji$_{33}$ lā$_{55}$ŋai$_{51}$
book one one
(Int.) 'a book'

'He bought a/the book(s).'

b. *Ndai* *laika* *grai* *hpu* *ai.*
n$_{33}$tai$_{33}$ lai$_{31}$ka$_{33}$ kʒai$_{31}$ p^{h}u$_{33}$ ai$_{33}$
this book very expensive SFP|3SG[SUBJ]:DECL
'This book is expensive.'

c. *Laika* *grai* *hpu* *ai.*
lai$_{31}$ka$_{33}$ kʒai$_{31}$ p^{h}u$_{33}$ ai$_{33}$
book very expensive SFP|3SG[SUBJ]:DECL
'The book(s) is/are expensive.'

Unlike other cardinal numbers, *mi* cannot directly apply to the noun; rather, it has to co-occur with *langai* (26a), or a classifier (27a). If nothing intermediates *mi* and the head noun, the resulting noun phrase is ungrammatical (27b).

(27) a. *laika* *buk* *mi*
lai$_{31}$ka$_{33}$ puk$_{31}$ mji$_{33}$
book CL one
'a book'

b. **laika* *mi*
lai$_{31}$ka$_{33}$ mji$_{33}$
book one
(Int.) 'a book'

The other one *langai*, however, behaves differently. The absence of the classifier does not lead to ungrammaticality, as illustrated below.

(28) a. *laika* *buk* *langai*
lai$_{31}$ka$_{33}$ puk$_{31}$ lă$_{55}$ŋai$_{51}$
book CL one
'one book'

b. *laika* *langai*
lai$_{31}$ka$_{33}$ lă$_{55}$ŋai$_{51}$
book one
'one book'

Traditionally, both *langai* and *mi* are treated as the cardinal number one because both of them are restricted to co-occur with a singular count noun (Dai and Xu 1992). One natural inquiry of such analysis is why a language allows such apparent redundancy at the first place. Moreover, if both *langai* and *mi* bear exactly the same grammatical information, it is hard to explain why they behave syntactically different.

Based on the relative ordering between the two elements, Cheung (2003a, 2004) argues that *langai* and *mi* are different in terms of their categorial status. While *mi* is a cardinal number, *langai* is a classifier. If we simply look at the

distribution of *langai* and *mi*, it seemed to be the case. As seen from (26a) and (27a) above, *langai* and the classifier *buk* seem to occupy the same structural position. It is also true that when *langai* and *mi* co-occur in the same phrase, they cannot switch order with each other (26b), just as the case where the classifier cannot be preceded by the numeral, as shown in (29) below.

(29) **laika* *mi* *buk*
lai$_{31}$ka$_{33}$ mji$_{33}$ puk$_{31}$
book one CL
(Int.) 'a book'

However, Gu (2009) claims that *langai* cannot be regarded as a classifier because it never occurs in a phrase where the cardinal number is larger than one. Given the structure in (18b), it is unusual for Cl to pose any selectional restriction to Num as it is c-commanded by Num. What is more, if *mi* is taken as the cardinal number one, the same problem still exists. It is hard to explain why *mi* cannot pattern with other cardinal numbers and immediately follow the head noun. Consider the following contrast:

(30) a. **laika* *mi*
lai$_{31}$ka$_{33}$ mji$_{33}$
book one
(Int.) 'one book'
b. *laika* *lahkong*
lai$_{31}$ka$_{33}$ lă$_{55}$k^{h}oŋ$_{51}$
book two
'two books'
c. *laika* *masum*
lai$_{31}$ka$_{33}$ mă$_{31}$sum$_{33}$
book three
'three books'

Clearly, other cardinal numbers can directly follow a count noun. On the other hand, the existence of *langai* does not solely rely on *mi*, unlike classifiers. Consider the

following examples,

(31) a. *laika* *langai*
lai$_{31}$ka$_{33}$ lă$_{55}$ŋai$_{51}$
book one
'one book'

b. **laika* *buk*
lai$_{31}$ka$_{33}$ puk$_{31}$
book CL
(Int.) 'one book'

In Jingpo the cardinal number constitutes a legitimate environment for classifiers to appear. In (31b), there is no numeral, so the phrase *laika buk* becomes unacceptable. However, as shown in (31a), *langai* can co-occur with nouns even without the appearance of a cardinal number. This contrast shows that *langai* is not a classifier. As discussed in the previous section, the N-Cl sequence without any numeral number is unacceptable in Jingpo (25).

In line with Borer's (2005) proposal of the noun phrase structure, Gu (2009) reconsiders the status of *langai* and *mi*, and claims that *langai*, patterning with other cardinal numbers, occupies the head #P position, while *mi* on the other hand locates at the head position of DP and assigns referential property to the noun. The DP structure in Jingpo is illustrated as follows:

(32) a. [$_{DP}$ [$_{\#P}$ [$_{ClP}$ [$_{NP}$ ~~laika~~] *laika*] *langai*] *mi*]
b. [$_{DP}$ [$_{\#P}$ [$_{ClP}$ [$_{NP}$ *laika*] *buk*]] *mi*]
c. [$_{DP}$ [$_{\#P}$ [$_{ClP}$ [$_{NP}$ *laika*] *buk*] *langai*] *mi*]
d.* [$_{DP}$ [$_{\#P}$ [$_{ClP}$ [$_{NP}$ ~~laika~~] *laika*]] *mi*]
e. [$_{\#P}$ [$_{ClP}$ [$_{NP}$ ~~laika~~] *laika*] *langai*]
f. [$_{\#P}$ [$_{ClP}$ [$_{NP}$ *laika*] *buk*] *langai*]

In (32a), no classifier is involved in the noun phrase; the noun *laika* 'book' has to move to Cl in order to be counted. The resulting count noun, merging with the cardinal number *langai*, forms a #P, which further merges with *mi* and obtains the referential property. In (32b), the head noun remains in-situ; a classifier *buk* is

merged to the head position of ClP. Since the classifier has a default number value one, the resulting ClP does not need to merge with the cardinal number one, i.e. *langai*. Of course, nothing blocks the merging of *langai* to ClP, as shown in (32c). On the other hand, without a cardinal number, (32d) is ungrammatical. This is because though both Move and Merge can help a noun to become countable, the two operations are not exactly the same. The default number value one only comes with the classifier. The N-to-Cl movement cannot automatically assign any number value to the noun phrase. Hence if a DP makes use of the N-to-Cl movement instead of merging a classifier, the numeral becomes obligatory. This accounts for the ungrammaticality of (32d). Finally, as the function of morpheme *mi* is to assign referential property to a noun, it does not occur in nominal phrases that denote quantity only, as in (32e) and (32f). In these two cases, the whole structure is just a #P, rather than a full DP. The evidence can be shown by the contrast in (33) below.

(33) a. *Ntsa palong* *langai* *mi* *la* *wa* *ya*
n$_{31}$ts$\underline{a}_{33}$p$\underline{ă}_{33}$l$\underline{o}$ŋ$_{33}$ lă$_{55}$ŋai$_{51}$ mji$_{33}$ la$_{55}$ wa$_{31}$ ja$_{33}$
coat one DET carry come give
rit.
ʒit$_{31}$
SFP|2SG[SUBJ]:PROX:IMP
'Please bring me a coat (not a skirt).' (Gu 2009:235)

b. *Ntsa palong* *langai* *la* *wa* *ya*
n$_{31}$ts$\underline{a}_{33}$p$\underline{ă}_{33}$l$\underline{o}$ŋ$_{33}$ lă$_{55}$ŋai$_{51}$ la$_{55}$ wa$_{31}$ ja$_{33}$
coat one carry come give
rit.
ʒit$_{31}$
SFP|2SG[SUBJ]:PROX:IMP
'Please bring me one coat (not two coats).' (Gu 2009:235)

As we can see from the glosses of the above minimal pairs, the meaning differences between the two sentences come from the structure of the nominal phrases. In (33a), *ntsa palong langai mi* is a full DP with referential property. On the other hand, in

(33b) *ntsa palong langai* does not have referential property as it is just a #P, not merging with a determiner yet.

In a nutshell, Gu's (2009) analysis shows that *mi* occupies the head D position of a nominal structure and assigns indefinite referential property to the noun. It is phonetically realized only when the noun is singular.

3.3.1.5 The two plural markers – -hte and ni

In Jingpo there are two morphemes *ni* and *–hte* that can follow a singular noun or demonstrative to form a plural noun or demonstrative. They are distinct from each other in at least three aspects, however. First, they occur in different environments. Consider the examples in (34) and (35) below:

(34)a. *nu* *ni*
nu$_{51}$ ni$_{33}$
mother PL
'mothers' (Dai and Xu 1992:10)

b. *ma* *ni*
ma$_{31}$ ni$_{33}$
child PL
'children' (Dai and Xu 1992:10)

c. *gumra* *ni*
kum$_{31}$ʒa$_{31}$ ni$_{33}$
horse PL
'horses' (Dai and Xu 1992:12)

d. *namsi* *hpun* *ni*
nam$_{31}$si$_{31}$ p^{h}un$_{55}$ ni$_{33}$
fruit tree PL
'fruit trees' (Dai and Xu 1992:12)

e. **an* *ni*
an$_{55}$ ni$_{33}$
1DL PL
(Int.) 'we'

(35)a. *nuhte*
nu$_{51}$t^{h}e$_{33}$
mother-PL

'mothers' (Dai and Xu 1992:14)

b. **mahte*
   $ma_{31}t^he_{33}$
   child-PL
   (Int.) 'children'

c. **gumrahte*
   $kum_{31}ʒa_{31}t^he_{33}$
   horse-PL
   (Int.) 'horses'

d. **namsi hpunhte*
   $nam_{31}si_{31}$ $p^hun_{55}t^he_{33}$
   fruit tree-PL
   (Int.) 'fruit trees'

e. *anhte*
   $an_{55}t^he_{33}$
   1DL-PL
   'we' (Xu, *et al* 1983:308)

The morpheme *ni* can co-occur with the kinship terms (34a), the human beings (34b), animals (34c) and inanimate beings (34d), basically any type of count nouns. In comparison, the morpheme *-hte* is restricted to kinship terms only (35a). It cannot follow other count nouns regardless of the animacy feature. This accounts for the ungrammaticality of (35b-d). What is more, only *-hte*, not *ni* can be attached to dual personal pronouns to form plurals,[39] as shown by the contrast between (34e) and (35e).

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[39] Note that the Jingpo pronominal system makes use of a three-way number distinction, illustrated in the following table.

i The pronominal system of Jingpo (Dai and Xu 1992:23)

	1st	2nd	3rd
Singular	*ngai*	*nang*	*shi*
Dual	*an*	*nan*	*shan*
Plural	*anhte*	*nanhte*	*shanhte*

As shown in the above table, the Jingpo speakers distinguish among a singular pronoun, a dual pronoun, and a plural pronoun. The latter in Jingpo refers to three or more than three people.

Secondly, as we can see from (36) below, *ni* is morphologically freer than *-hte*.[40] The omission of the noun *masha* 'person' would not lead to unacceptability.

(36)	[*gabu*	*ai*]	(*masha*)	*ni*
	kă$_{31}$pu$_{33}$	ai$_{33}$	mă$_{31}$ʃa$_{31}$	ni$_{33}$
	glad	SFP|3SG[SUBJ]:DECL	person	PL
	'delighted people'			(Xu, *et al* 1983:593)

We can see that the morpheme *ni* can immediately follow a relative clause; *-hte* on the other hand, can never be used without a nominal host. The contrast is shown as follows:

(37)a.	[*nu*	*wa*	*re*	*ai*]	*ni*
	nu$_{51}$	wa$_{51}$	ʒe$_{33}$	ai$_{33}$	ni$_{33}$
	mother	father	COP	SFP|3SG[SUBJ]:DECL	PL
	'parents'				
b.	*[*nu*	*wa*	*re*	*ai*]	*-hte*
	nu$_{51}$	wa$_{51}$	ʒe$_{33}$	ai$_{33}$	t^{h}e$_{33}$
	mother	father	COP	SFP|3SG[SUBJ]:DECL	PL
	(Int.) 'parents'				

Hence we can draw a conclusion that while *-hte* is a bound morpheme and cannot stand alone, *ni* is morphologically freer.

Finally, although both *ni* and *-hte* can co-occur with singular demonstratives, [41] exemplified in (38) below, they contribute quite different

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[40] Cheung (2003a) also notices the morphological distinction between *ni* and *-hte* and she treats the former as a 'quasi-suffix'.

[41] Note that the Jingpo demonstrative system makes use of a five-way distinction, illustrated in the following table.

i Demonstratives in Jingpo (Liu and Gu 2009:277)

		Demonstrative	Deictic reference
Proximal	Near Speaker	*ndai*	Near speaker and far from hearer
	Near Hearer	*dai*	Near hearer and far from speaker
Distal	Up	*htora*	Higher than the location of speaker
	Level	*wora*	Level with the location of speaker
	Down	*lera*	Lower than the location of speaker

As shown in the above table, the Jingpo demonstrative system contains both proximal and distal demonstratives. The former type is distinguished between viewpoints, whereas the latter type is distinguished along the axis of elevation.

meanings to the resulting plural forms, as illustrated in (39).[42]

(38)a. *sara* *wora* *ni*
sǎ$_{31}$ʒa$_{33}$ wo$_{55}$ʒa$_{31}$ ni$_{33}$
teacher that PL
'those teachers (far from hearer)' (Dai and Xu 1992:31)

b. *gom* *daihte*
kom$_{33}$ tai$_{33}$t^{h}e$_{33}$
glass that-PL
'those glasses (near hearer)' (Dai and Xu 1992:31)

(39)a. *Wa* *ndai* *ni* *sun* *nau* *shang* *ai.*
wa$^{?}_{31}$ n$_{33}$tai$_{33}$ ni$_{33}$ sun$_{55}$ nau$_{31}$ ʃaŋ$_{31}$ ai$_{33}$
pig this PL garden very much enter SFP|3SG[SUBJ]:DECL
'These pigs always enter the garden.' (Dai and Xu 1992:31)

b. *Wa* *ndaihte* *sha* *lu* *ni ai.*
wa$^{?}_{31}$ n$_{33}$tai$_{33}$t^{h}e$_{33}$ ʃa$_{31}$ lu$_{31}$ ni$^{?}_{55}$ai$_{33}$
pig this-PL only have SFP|COS:1SG[SUBJ]-DECL
'I've only got this many pigs.' (Dai and Xu 1992:31)

Dai and Xu (1992) notice that the two kinds of plural forms in (39) cannot be replaced with each other. The example (39a) can be regarded as the answer to the question "what happened?", whereas the second one (39b) is the answer to the question "how many pigs do you have". Liu and Gu (2009) argue that this is because the plural form *ndai ni* is an entity-denoting expression, whereas *ndaihte* denotes a quantity only. However, note that both *wa ndai ni* (39a) and *wa ndaihte* (39b) have referential properties and should be treated in the same way syntactically.

As discussed earlier, bare nouns without *ni* do not necessarily have a singular reading, as depicted below:

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[42]Note that the specific use of SFPs may vary from case to case. In the example (39a), the SFP *ai* does not agree with the subject *wa ndai ni* 'these pigs' in number. This is due to the fact that the agreement system in Jingpo has been undergoing a process of simplification. As long as the hearer can get the correct information about the number from elsewhere, e.g. the context, the mismatch of agreement features does not really matter. See Section 4.3.2.4 for details.

(40) a. *Jongma* *hkom* *mat* *sai.*
tʃoŋ$_{31}$ma$_{31}$ k^{h}om$_{33}$ mat$_{31}$ sai$_{33}$
student leave AUX SFP|COS:3SG[SUBJ]-DECL
'Students have left.'

b. *Sara* *chyu* *nga* *ai.*
să$_{31}$ʒa$_{33}$ tʃu̲$_{33}$ ŋa$_{31}$ ai$_{33}$
teacher only ASP.IMPF SFP|3SG[SUBJ]:DECL
'Only teachers are (here).'

It is also worth noting that unlike English, the generic noun phrases in Jingpo can never bear plural inflections.[43]

(41) *Shi* *gumra* (**ni*) *ra mayu* *ai.*
ʃi$_{33}$ kum$_{31}$ʒa$_{31}$ ni$_{33}$ ʒa$^{?}_{31}$mă$_{31}$ju$_{33}$ ai$_{33}$
3SG horse PL like SFP|3SG[SUBJ]-DECL
(Int.) 'He likes horses.'

To convey the generic reading, either a bare noun or a specific word form which denotes a whole kind should be used (42a). The latter form is only used when the noun phrase is kind-denoting, hence (42b) is ruled out with the appearance of the morpheme *-namso*.

(42) a. *Ndai* *ko* *namsi (namso)* *grai* *lo*
n$_{33}$tai$_{33}$ ko̲$^{?}_{55}$ nam$_{31}$si$_{31}$nam$_{31}$so$_{33}$ kʒai$_{31}$ lo$^{?}_{55}$
this place fruit-GIC very many
ai.
ai$_{33}$
SFP|3SG[SUBJ]-DECL
'There are many fruit (in general) in this place.' (Dai 1999:9)

b. *Ngai* *namsi (*namso)* *langai* *mi* *ra*
ŋai$_{33}$ nam$_{31}$si$_{31}$nam$_{31}$so$_{33}$ lă$_{55}$ŋai$_{51}$ mji$_{33}$ ʒa$^{?}_{31}$
1SG fruit-GIC one DET want
nngai.
n$_{31}$ŋai$_{33}$
SFP|1SG[SUBJ]-DECL
'I want a piece of fruit.' (Dai 1999:14)

---

[43] Note that (41) is grammatical only if the noun phrase *gumra ni* is interpreted as definite.

The fact that nouns with *ni* cannot have a kind-denoting interpretation can be accounted for if we assume that *ni* bears the [+definite] feature, following Liu and Gu (2009). It has also been noticed by Cheung (2003a) that the attachment of *ni* to (common) nouns can always result in a definite interpretation, regardless of whether the sequence of N + *ni* occurs in subject or object positions. This can be evidenced by the following examples.

(43) a. *Tsi sara* *ni* *shi* *hpe* *tsi* *tsi*
tsi̲$_{31}$sǎ$_{31}$ʒa$_{33}$ ni$_{33}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ tsi̲$_{31}$ tsi̲$_{31}$
doctor PL 3SG OM medicine cure
manu ni?
mǎ$_{55}$nu$^{?}_{55}$ni$_{51}$
SFP|COS:3PL[SUBJ]-Q
'Have the doctors cured him?' (Dai and Xu 1992:309)

b. *Woi* *ni* *hpun* *ntsa* *nna* *ga* *de*
woi$_{33}$ ni$_{33}$ p^{h}un$_{55}$ n$_{31}$ts̲a$_{33}$ n$_{31}$na$_{55}$ ka$_{55}$ te$^{?}_{31}$
monkey PL tree above from ground to
gumhton *hkrat* *masai.*
kum$_{31}$t^{h}on$_{31}$ k^{h}ʒat$_{31}$ mǎ$_{33}$sai$_{33}$
jump down SFP|COS:3PL[SUBJ]-DECL
'The monkeys have jumped down from the tree to the ground.'
(Dai and Xu 1992:247)

c. *Nang jongma* *ni* *hpe* *atsom* *sharin shapan*
naŋ$_{33}$ tʃoŋ$_{31}$ma$_{31}$ ni$_{33}$ p^{h}e$^{?}_{55}$ a$_{55}$ts̲o̲m$_{51}$ ʃǎ$_{31}$ʒin$_{55}$ʃǎ$_{31}$p̲an$_{33}$
2SG student PL OM nicely cultivate
u!
u$^{?}_{31}$
SFP|2SG[SUBJ]-IMP
'Please cultivate the students nicely.' (Dai and Xu 1992:202)

Though Jingpo does not make use of any overt definite determiner as discussed earlier, the definiteness of the noun phrases *tsi sara ni* 'doctors' in (43a), *woi ni* 'monkeys' in (43b) and *jongma ni* 'students' in (43c) are not ambiguous at all. With the morpheme *ni*, all these noun phrases unequivocally refer to definite entities.

The plural morphemes carrying definiteness is not unusual crosslinguistically. Recall Aboh's (1997) Split-DP analysis of Gungbe noun phrases. The plural marker *lɛ́* also marks definiteness. The examples are repeated below:

(44) a. *Mì* *sà* *távò* *àwè* *ná* *mì.*
2PL-NOM sell-PERF table two to 1SG-ACC
'Sell me two tables, please.' Aboh (2004:80)

b. *Mì* *sà* *távò* *àwè* *lɛ́* *ná* *mì.*
2PL-NOM sell- PERF table two PL to 1SG-ACC
'Sell me the two tables, please.' Aboh (2004:80)

c. *Mì* *sà* *távò* *lɛ́* *ná* *mì.*
2PL-NOM sell-PERF table PL to 1SG-ACC
'Sell me the tables, please.' Aboh (2004:81)

As we can see from the above examples, just as the Jingpo plural marker *ni*, *lɛ́* in Gungbe is not obligatory for plurality marking (44a). But it is the source of definiteness in (44b). The example (44c) shows that *lɛ́* is not a purely definite marker as it also yields a plural meaning when the numeral number *àwè* 'two' is missing.[44]

A final note on the plural formation in Jingpo is that the co-occurrence of the plural marker *ni*/*-hte* with a cardinal number is always barred in the language, as observed in Cheung (2003a) and Liu and Gu (2009), exemplified as in (45) and (46) below.

(45) a. **jongma* *ni* *(marai)* *masum*
$tʃoŋ_{31}ma_{31}$ ni_{33} $mă_{31}ʒai_{33}$ $mă_{31}sum_{33}$
student PL CL three
(Int.) 'the three students' (Cheung 2003a:131)

b. **gumra* *ni* *masum*
$kum_{31}ʒa_{31}$ ni_{33} $mă_{31}sum_{33}$
horse PL three
(Int.) 'the three horses' (Cheung 2003a:131)

[44] The plural indefinites in Jingpo are expressed either via bare nouns (40) or via the [N + (Cl) + Num] sequence (see Section 3.3.1.2).

c. **hpun* *ni* *masum*
p^hun_{55} ni_{33} $mă_{31}sum_{33}$
tree PL three
(Int.) 'the three trees' (Cheung 2003a:131)

(46)a. *sara* *marai* *masum* *ndai*
$să_{31}ʒa_{33}$ $mă_{31}ʒai_{33}$ $mă_{31}sum_{33}$ $n_{33}tai_{33}$
teacher CL three this
'these three teachers' (Liu and Gu 2009:284)

b. **sara* *marai* *masum* *ndaihte*
$să_{31}ʒa_{33}$ $mă_{31}ʒai_{33}$ $mă_{31}sum_{33}$ $n_{33}tai_{33}t^he_{33}$
teacher CL three this-PL
'these three teachers' (Liu and Gu 2009:286)

The question of how to account for the above incompatibility thus arises, which leads to a more general inquiry: what is the status of *ni*/*-hte* in Jingpo? It should be noted that the corresponding plural marker *-men* in Mandarin exhibits the same restriction (47a) as Jingpo and the resulting noun phrase also has definite reference, as in (47b).

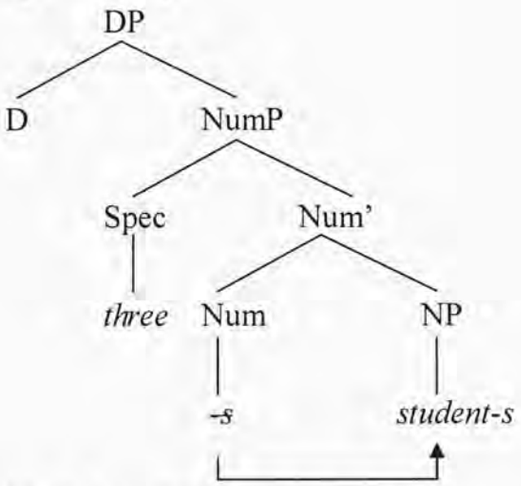
(47) a. *san* *ge* *xuesheng(*-men)* – Mandarin
three CL student-PL
(Int.) 'the three students' (Li 1999:77)

b. *you* *ren(*-men)* – Mandarin
have person-PL
(Int.) '(There) are some people.' (Iljic 1994:94)

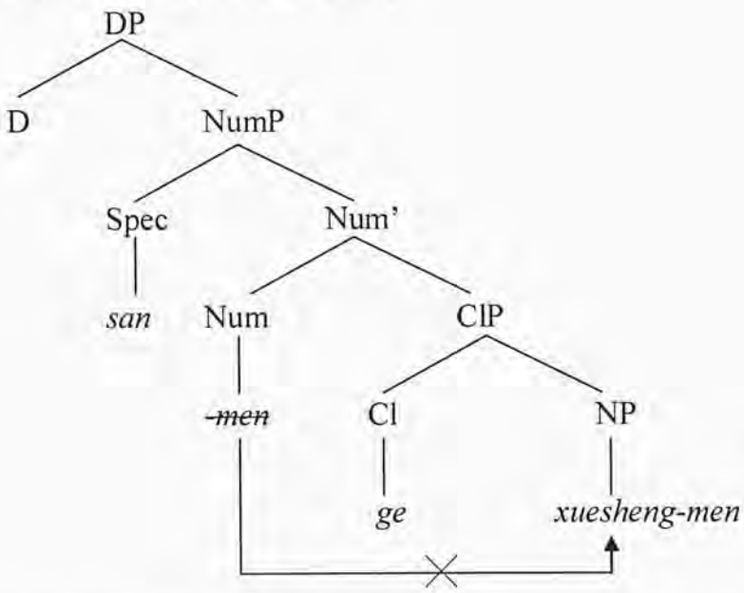
Two different approaches have been proposed on the status of Mandarin *-men* in the literature. Iljic (1994) regards *-men* as a collective marker referring to wholes. Its incompatibility with the cardinal phrase hence can be attributed to the logical contradiction between grouping, the function of collectivity, and counting, the function of cardinal numbers. Li (1999), on the other hand, analyzes *-men* as a plural morpheme on a par with *-s* in English and then reduces the observed incompatibility between *-men* and the cardinal numbers to the language-particular properties of Mandarin, i.e. its classifier system. According to Li, the plural markers

of both languages originate in the head position of NumP. As bound morphemes, they must be attached to certain host. While in English *-s* can always move downward to suffix with the head noun, the analogous head movement would be blocked in Mandarin if there is a classifier in-between. The derivation of plurality in both languages can be illustrated as follows.

(48) a. English noun phrase structure



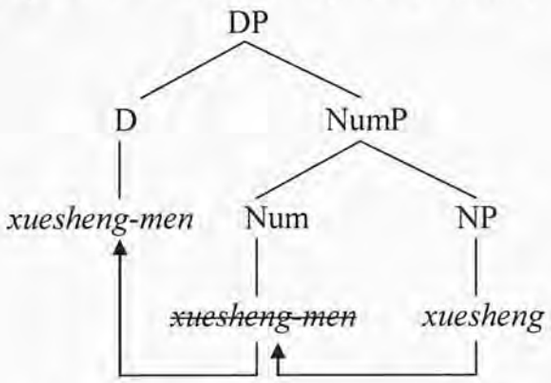
b. Mandarin noun phrase structure



As shown from the above tree diagrams, the differences between English and Mandarin in terms of the noun phrase structure according to Li (1999) lie in the projection ClP. Due to the lack of such a projection, the head movement of *–s* is possible in English. In contrast, the movement of *-men* from Num to N is blocked by

the intervening head Cl. Such analysis correctly predicts that bare nouns with the plural morpheme *-men* yield a definite reading because the head noun plus *-men* can be realized in the head D position via successive movement, as illustrated below.

(49) Mandarin bare noun phrase structure



However, Li's (1999) analysis of Mandarin *-men* cannot be readily extended to the Jingpo data. As Cheung (2004) correctly points out, such analysis would inaccurately predict that with the absence of classifiers the cardinal numbers and *ni* should be able to co-occur. This is not the case, as evidenced by (45). What is more, as I discussed earlier, the head noun of *ni* can be omitted. There is no way for *ni* to move to be attached to a covert host. However, even when there is no head noun, *ni* and the cardinal numbers are still incompatible, as shown below.

(50)*[*gabu*	*ai*]	*ni*	*masum*
$kă_{31}pu_{33}$	ai_{33}	ni_{33}	$mă_{31}sum_{33}$
glad	SFP|3SG[SUBJ]:DECL	PL	three

(Int.) 'three delighted people'

Therefore following Iljic's (1994) proposal, Cheung (2004) analyzes the morpheme *ni/-hte* as collective markers and distinguishes the grouping reading of the form N-*ni/-hte* from the counting reading of the form N-(Cl)-Num.

Now let us get back to the different interpretation of *ndai ni* and *ndaihte*. The two morphemes *ni* and *-hte* as collective markers have the similar meaning to *many* or *much* and indicate an unspecified plural number. It is worth noting that when they

are incorporated with demonstratives in Jingpo, they pose different scopes over the resulting noun phrases, hence accounting for the semantic differences between Dem *ni* and Dem-*hte*, illustrated below:

(51)a. [[*wa* *ndai*] *ni*]
wa$^{?}_{31}$ n$_{33}$tai$_{33}$ ni$_{33}$
pig this PL
'many such pigs'

b. [*wa* [*ndaihte*]]
wa$^{?}_{31}$ n$_{33}$tai$_{33}$t^{h}e$_{33}$
pig this-PL
'this many pigs'

As shown in (51), the morpheme *ni* has a wider scope over the noun phrase *wa ndai*, whereas the morpheme *-hte* scopes over the demonstrative *ndai* only. This can be further reduced to the morphological properties of the two morphemes.

Given the discussion so far, we can summarize the grammatical functions of *mi* and *ni/-hte* in the following table:

(52) The feature specifications of *mi* and *ni/-hte*

	[±plurality]	[±definiteness]
mi	-	-
ni/-hte	+	+

The morpheme *mi* is restricted to singular nouns and its presence yields to an indefinite interpretation. The morpheme *ni/-hte*, on the other hand, can only co-occur with plural nouns or demonstratives, contributing a definite reading to its hosts.

3.3.2 Complex nominals

In this section, I shift my focus onto Jingpo complex noun phrases, where a considerable degree of flexibility has long been reported (Cheung 2006, 2007, Liu and Gu 2009, *inter alia*). The adjectival modifiers and demonstratives can occur to both sides of the noun phrases. The latter can even appear twice and thereby enclose the head nouns. Recent studies on Jingpo noun phrase structure have revealed that

there are constraints on the placement of adjectives and modifiers, indicating that they are not as freely merged as previously thought.

3.3.2.1 Prenominal and postnominal adjectives

In Jingpo nominal structure, the modifiers can occur at either side of the head noun, depending on their categorial status. Adjectival modifiers can either precede or follow the head noun whereas clausal modifiers are consistently followed by the head noun. Consider the following examples:

(53) a. *hpun* *gaba*
p^hun_{55} $kă_{31}pa_{31}$
tree big
'big tree' (Dai and Xu 1992:88)

b. *gaba* *ai* *hpun*
$kă_{31}pa_{31}$ ai_{33} p^hun_{55}
big SFP|3SG[SUBJ]:DECL tree
'big tree' (Dai and Xu 1992:88)

c. [*shi* *ra* *ai*] *hpun*
$ʃi_{33}$ $ʒa^{ʔ}_{31}$ ai_{33} p^hun_{55}
3SG like SFP|3SG[SUBJ]:DECL tree
'(the) tree that he likes'

d. **hpun* [*shi ra* *ai*]
p^hun_{55} $ʃi_{33}$ $ʒa^{ʔ}_{31}$ ai_{33}
tree 3SG like SFP|3SG[SUBJ]:DECL
(Int.) '(the) tree that he likes'

As seen from the above examples, the adjectival modifier occurs either prenominally (53a) or postnominally (53b). On the other hand, if the head noun is modified by a relative clause, the clause obligatorily precedes the noun as in (53c). In (53d), the CP modifier follows the noun, resulting in an ill-formed phrase.

It is worth noting that all the prenominal modifiers in (53) are followed by the SFP *ai*. See the examples below for further illustration:

(54) a. *Shi grai shakut ai.*
ʃi$_{33}$ kʒai$_{31}$ ʃă$_{31}$ku̲t$_{31}$ ai$_{33}$
3SG very diligent SFP|3SG[SUBJ]:DECL
'he is very diligent' (Dai and Xu 1992:269)

b. [*ngai mari ai*] *laika*
ŋai$_{33}$ mă$_{31}$ʒi$_{33}$ ai$_{33}$ lai$_{33}$ka̲$_{33}$
1SG buy SFP|3SG[SUBJ]:DECL book
'the book that I bought' (Dai and Xu 1992:6)

c. *Ngai* [*gadai sa ai*] *hpe chye*
ŋai$_{33}$ kă$_{31}$tai$_{33}$ sa$_{33}$ ai$_{33}$ p^{h}e^{ʔ}$_{55}$ tʃe̲$_{33}$
1SG who come/go SFP|3SG[SUBJ]:DECL OM know
mayu nngai.
mă$_{31}$ju$_{33}$ n$_{31}$ŋai$_{33}$
want SFP|1SG[SUBJ]-DECL
'I wonder who came.'

d. *Nang shatsam ai majo, shi mung*
naŋ$_{33}$ ʃă$_{31}$tsa̲m$_{31}$ ai$_{33}$ mă$_{31}$tʃo$_{31}$ ʃi$_{33}$ muŋ$_{31}$
2SG encourage SFP|3SG[SUBJ]:DECL because 3SG also
grai shakut kau sai.
kʒai$_{31}$ ʃă$_{31}$ku̲t$_{31}$ kau$_{55}$ sai$_{33}$
very diligent AUX SFP|COS:3SG[SUBJ]-DECL
'Because you encouraged (him), he has become hardworking too.'
(Dai and Xu 1992:241)

As shown in the above examples, the morpheme *ai* can be used in both matrix clauses (54a) and various embedded clauses including relative clauses as in (54b), complement clauses as in (54c) and adverbial clauses as in (54d).

Cheung (2003a) notices the obligatory presence or absence of the morpheme *ai* in prenominal adjectives (53b). When the adjective appears prenominally, it must be followed by *ai*; whereas when it occurs in postnominal positions, *ai* must be deleted. Compare the contrast in grammaticality between (53) and (55) below.

(55) a. **gaba hpun*
kă$_{31}$pa$_{31}$ p^{h}un$_{55}$
big tree
(Int.) 'big tree'

b. **hpun* *gaba* *ai*
p^hun_{55} $kă_{31}pa_{31}$ ai_{33}
tree big SFP|3SG[SUBJ]:DECL
(Int.) 'big tree'

Gu and Dai (2003) and Cheung (2006) observe a lot of asymmetries between prenominal and postnominal adjectives. Firstly, while the prenominal adjectives always allow adverb modification, the postnominal ones do not:

(56) a. *grai gaba ai hpun*
$kʒai_{31}$ $kă_{31}pa_{31}$ ai_{33} p^hun_{55}
very big SFP|3SG[SUBJ]:DECL tree
'very big tree' (Cheung 2006:40)

b. *hpun (*grai) gaba (*grai)*
p^hun_{55} $kʒai_{31}$ $kă_{31}pa_{31}$ $kʒai_{31}$
tree very big very
'very big tree' (Cheung 2006:40)

Secondly, multiple occurrences of different adjectival forms are always allowed prenominally, whereas at most one adjective can occur in the postnominal position.

(57) a. *gaba *(ai) hkye *(ai) dui *(ai) myin *(ai) namsi*
$kă_{31}pa_{31}$ ai_{33} k^hje_{33} ai_{33} tui_{31} ai_{33} $mjin_{33}$ ai_{33} $nam_{31}si_{31}$
big SFP red SFP sweet SFP ripe SFP fruit
'big red sweet ripe fruit(s)' (Cheung 2006:41)

b. **namsi gaba hkye dui myin*
$nam_{31}si_{31}$ $kă_{31}pa_{31}$ k^hje_{33} tui_{31} $mjin_{33}$
fruit big red sweet ripe
(Int.) 'big red sweet ripe fruit(s)'

c. **namsi myin dui hkye gaba*
$nam_{31}si_{31}$ $mjin_{33}$ tui_{31} k^hje_{33} $kă_{31}pa_{31}$
fruit ripe sweet red big
(Int.) 'ripe sweet red big fruit(s)' (Cheung 2006:41)

d. **namsi dui hkye gaba*
$nam_{31}si_{31}$ tui_{31} k^hje_{33} $kă_{31}pa_{31}$
fruit sweet red big
(Int.) 'sweet red big fruit(s)' (Cheung 2006:41)

e. **namsi* *hkye* *gaba*
nam$_{31}$si$_{31}$ k^{h}je$_{33}$ kă$_{31}$pa$_{31}$
fruit red big
(Int.) 'red big fruit(s)' (Cheung 2006:41)

f. *namsi* *gaba*
nam$_{31}$si$_{31}$ kă$_{31}$pa$_{31}$
fruit big
'big fruit(s)' (Cheung 2006:41)

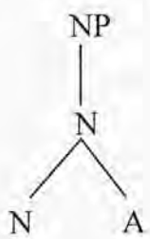
Thirdly, the prenominal and postnominal adjectives also differ in terms of conjunction.

(58) a. *hkye *(ai) hte tsom *(ai) nampan nhtan masum*
k^{h}je$_{33}$ ai$_{33}$ t^{h}e$^{?}_{31}$ ts̲om$_{31}$ ai$_{33}$ nam$_{31}$pa̲n$_{33}$ n$_{31}$t^{h}an$_{33}$ mă$_{31}$sum$_{33}$
red SFP and beautiful SFP flower bunch three
'three bunches of red and beautiful flowers'
(Gu and Dai 2003:87)

b. **nampan* *hkye* *hte* *tsom* *nhtan* *masum*
nam$_{31}$pa̲n$_{33}$ k^{h}je$_{33}$ t^{h}e$^{?}_{31}$ ts̲om$_{31}$ n$_{31}$t^{h}an$_{33}$ mă$_{31}$sum$_{33}$
flower red and beautiful bunch three
(Int.) 'three bunches of red and beautiful flowers'
(Cheung 2006:40)

Based on all these asymmetries, Cheung (2006:41) proposes that while the prenominal adjectives are prototypical adjectival modifiers in Jingpo, the postnominal adjectives are best-analyzed as modifiee-modifier compounds, as shown in the following diagram.

(59)



nampan *hkye*
flower red
'red flower' (Cheung 2006:41)

However, the N-A sequence does not pattern with canonical modifiee-modifier compounds in at least three aspects. Morphologically, it does not obey any

morphophonological rule which is usually accompanied by compounding. In Jingpo when two roots are combined together to form compounds, the root having more than one syllable is reduced to a monosyllable.

(60)	a.	*nlung*	*din*	→	*lungdin*	
		$n_{31}lu\eta_{31}$	tin_{31}		$lu\eta_{31}tin_{31}$	
		'stone'	'round'		'pebble'	(Dai 1998:111)
	b.	*hpunpyen*	*chyang*	→	*pyenchyang*	
		$p^hun_{55}pj\underline{e}n_{33}$	$t\int\underline{a}\eta_{33}$		$pj\underline{e}n_{33}t\int\underline{a}\eta_{33}$	
		'board'	'black'		'blackboard'	(Gu and Dai 2003:76)

Certain roots must also undergo internal modification when they are compounded with others.

(61)	a.	*kawa*	*mang*	→	*wamang*	
		$k\underline{\breve{a}}_{55}wa_{55}$	$ma\underline{\eta}_{33}$		$w\breve{a}_{31}ma\underline{\eta}_{33}$	
		'bamboo'	'purple'		'black bamboo'	(Dai 1998:112)
	b.	*nga*	*hkye*	→	*wahkye*	
		ηa_{33}	k^hje_{33}		$w\breve{a}_{33}k^hje_{33}$	
		'ox'	'red'		'bull'	(Dai 1998:112)

As seen from the above examples, the second syllable of *kawa* is changed from a high tone to a low falling tone when it is combined with *mang* (61a), and the root *nga* is changed to *wa* when it is compounded with *hkye* (61b).

Syntactically, the N-A sequence is different from the canonical modifiee-modifier compound in that the former cannot be modified by a postnominal adjective whereas the latter can.

(62)	a.	*lungdin*	*gaji*	
		$lu\eta_{31}tin_{31}$	$k\breve{a}_{31}t\int i_{31}$	
		pebble	small	
		'small pebble(s)'		
	b.	**nlung*	*din*	*gaji*
		$n_{31}lu\eta_{31}$	tin_{31}	$k\breve{a}_{31}t\int i_{31}$
		stone	round	small
		(Int.) 'small round stones'		

Semantically, the interpretations of the modifiee-modifier compounds are not as straightforward as that of the N-A sequence is.

(63) a. *jum* *dui* → *jumdui*
tʃum$_{31}$ tui$_{31}$ tʃum$_{31}$tui$_{31}$
'salt' 'sweet' 'white sugar' (Gu and Dai 2003:78)

b. *ga* *hpro* → *ga hpro*
ka$_{55}$ p^{h}ɜo$_{31}$ ka$_{55}$p^{h}ɜo$_{31}$
'soil' 'white' 'chalk' (Gu and Dai 2003:78)

The opacity of the meaning of compounds can be further evidenced by the following examples.

(64) a. *chyang* *ai* *wahkye*
tʃa̲ŋ$_{33}$ ai$_{33}$ wă$_{33}$k^{h}je$_{33}$
black SFP|3SG[SUBJ]:DECL bull
'black bull'

b.* *chyang* *ai* *nga* *hkye*
tʃa̲ŋ$_{33}$ ai$_{33}$ ŋa$_{33}$ k^{h}je$_{33}$
black SFP|3SG[SUBJ]:DECL ox red
(Int.) 'black red ox'

The example (64b) is unacceptable because the meaning of the prenominal adjectives and the postnominal adjectives are contradictory. In contrast, (64a) is well-formed because the semantic interpretation rule cannot see through the internal structure of a word. The contrast between (64a) and (64b) hence can be regarded as a clear manifestation of Huang's (1984b) Lexical Integrity Hypothesis, as quoted below.

(65) The Lexical Integrity Hypothesis (Huang 1984b:60)
No phrase-level rule may affect a proper subpart of a word.

Since the semantic interpretation takes place at the phrase level, it cannot see the subpart of a compound *wahkye* 'bull'; the whole phrase (64a) is thus not anomalous.

Based on the abovementioned discussion, I follow Gu and Dai (2003) and conclude that the N-A sequence in Jingpo is a syntactic phrase rather than a

compound. See Chapter 6 for a unified account of the prenominal and postnominal adjectives.

3.3.2.2 Prenominal and postnominal demonstratives

Jingpo demonstratives have both singular and plural forms, and they behave quite differently in terms of word order. Examples are given below:

(66) a. *ndai* *n-gu* *kyin* *masum*
$n_{33}tai_{33}$ $n_{33}ku_{33}$ $kj\underline{i}n_{33}$ $m\check{a}_{31}sum_{33}$
this rice CL^{catty} three
'these three catties of rice' (Liu and Gu 2009:281)

b. *n-gu* *kyin* *masum* *ndai*
$n_{33}ku_{33}$ $kj\underline{i}n_{33}$ $m\check{a}_{31}sum_{33}$ $n_{33}tai_{33}$
rice CL^{catty} three this
'these three catties of rice' (Liu and Gu 2009:281)

c. *n-gu* *ndai* *kyin* *masum*
$n_{33}ku_{33}$ $n_{33}tai_{33}$ $kj\underline{i}n_{33}$ $m\check{a}_{31}sum_{33}$
rice this CL^{catty} three
'these three catties of rice' (Liu and Gu 2009:290)

d. *n-gu* *kyin* *ndaihte*[45]
$n_{33}ku_{33}$ $kj\underline{i}n_{33}$ $n_{33}tai_{33}t^{h}e_{33}$
rice CL^{catty} this-PL
'these catties of rice' (Liu and Gu 2009:286)

e.* *ndaihte* *n-gu* *kyin*
$n_{33}tai_{33}t^{h}e_{33}$ $n_{33}ku_{33}$ $kj\underline{i}n_{33}$
this-PL rice CL^{catty}
(Int.) 'these catties of rice'

f.* *n-gu* *ndaihte* *kyin*
$n_{33}ku_{33}$ $n_{33}tai_{33}t^{h}e_{33}$ $kj\underline{i}n_{33}$
rice this-PL CL^{catty}
(Int.) 'these catties of rice' (Liu and Gu 2009:281)

As shown in (66), a singular demonstrative *ndai* can be on either side of the entire DP (66a&b) or it may immediately follow the head noun *n-gu* (66c), whereas a plural demonstrative *ndaihte* is restricted to the rightmost side of a nominal phrase

[45] Recall that the cardinal numbers are incompatible with the plural marker *ni* or *-hte*.

(66d-f).

Interestingly, Jingpo allows the so-called "demonstrative-doubling" in noun phrases, as illustrated below.

(67)a. *ndai* *mu* *ndai*
$n_{33}tai_{33}$ mu_{55} $n_{33}tai_{33}$
this thing this
'this thing' (Liu and Gu 2009: 281)

b. *ndai* *mu* *ndai* *ni*
$n_{33}tai_{33}$ mu_{55} $n_{33}tai_{33}$ ni_{33}
this thing this PL
'these things' (Liu and Gu 2009: 281)

Based on a detailed investigation of the Jingpo nominal structure, Liu and Gu (2009) argue against a unified syntactic analysis of demonstratives and propose that A-type demonstratives and D-type demonstratives should be distinguished. While the former syntactically behaves in a similar way as canonical adjectives and enjoys more freedom in distribution, the latter behaves more like a functional element and exhibits a relatively restricted distribution. Liu and Gu (2009) claim that these two types of demonstratives occupy different syntactic slots with the D-type being higher in structure than the A-type.

3.4 Concluding remarks

In this chapter, I have introduced the typological background of Jingpo. First I have provided relevant data to show that Jingpo is a typical head-final language in both its clausal and nominal domains. I have also demonstrated that the language currently shares the morphological properties of three different language types. Furthermore, I have briefly discussed the *pro* drop phenomenon in Jingpo and argued that the language exhibits mixed properties commonly found in both the agreement-based *pro* drop languages and the radical *pro* drop languages.

In addition to the typological background, I have also reviewed and evaluated the previous studies on Jingpo noun phrase structure. The noun phrases in Jingpo exhibit a fixed word order, i.e. N-Cl-Num sequence. Since its classifier system is still under development, the language currently makes use of two ways to partition nouns, namely, the classifier strategy and the N-to-Cl movement strategy. Though Jingpo allows bare nouns to occur in argumental positions, two elements have been reported to mark definiteness along with other grammatical functions: the singular indefinite marker *mi* and the plural definite marker *ni/-hte*. Finally I have discussed the free distribution of adjectives and demonstratives. Recent studies on Jingpo noun phrase structure have revealed that there are constraints on the placement of adjectives and demonstratives, indicating that they are not as freely merged as previously thought.

In the next chapter I investigate the right periphery of Jingpo clauses, starting from the rightmost edge where evidential markers and speech act particles locate. I also give an overview of Jingpo SFP system and show that the segmentation of SFPs is unfavorable. At the end of the next chapter, I reveal the striking asymmetry between the matrix clauses and the embedded clauses in Jingpo.

Chapter 4 The Right Periphery of Jingpo Clauses

4.1 Introduction

In the previous chapter, I have reviewed the typological background of Jingpo, including its head directionality in clausal and nominal domains, its mixed morphological properties commonly found in analytic, agglutinating, and inflectional languages, as well as the *pro* drop phenomenon. I have also reviewed and evaluated the previous studies on the Jingpo noun phrase structure. The presentation shows that Jingpo displays bare nouns in a variety of contexts where other languages, e.g. Romance and Germanic languages, require a determined noun. The sequence of nouns, classifiers and numerals always exhibits a fixed order. Since its classifier system is still under development, the language currently makes use of two ways to partition nouns, namely, the classifier strategy and the N-to-Cl movement strategy. Thus the classifiers of count nouns in Jingpo can be freely omitted. Though Jingpo allows bare nouns to occur in argumental positions, two elements are reported to mark definiteness along with other grammatical functions: the singular indefinite marker *mi* and the plural definite marker *ni/-hte*. Finally I discuss the previous studies on the distribution of various types of modifiers in Jingpo complex nouns, including adjectives and demonstratives, and show that they are not as freely merged as previously thought.

In this chapter special attention is paid to the information structure of Jingpo clauses, starting from the rightmost peripheral elements, namely the evidential markers and the discourse particles. Then I turn my focus to another intriguing phenomenon, i.e. the use of SFPs in Jingpo. By the end of this chapter, I demonstrate that the matrix clauses and embedded clauses in Jingpo exhibit striking asymmetry in terms of their functional mark-up..

4.2 The rightmost edge of Jingpo clauses

Similar to many other SOV languages, Jingpo makes use of a rich inventory of SFPs to encode most of its grammatical information. However, it is not difficult to see that the term sentence final particle could be misleading. First of all, the particles do not exclusively occur in full-fledged sentences. Rather, they can appear in all kinds of embedded clauses, for instance, in a relative clause as highlighted in (1) below.

(1) [*Mani* *ngai* *mari* ***ai***] *dai* *laika*
mă$_{55}$ni$_{55}$ ŋai$_{33}$ mă$_{31}$ʒi$_{33}$ ai$_{33}$ tai$_{33}$ lai$_{31}$ka$_{33}$
yesterday 1SG buy SFP|3SG[SUBJ]:DECL that book
buk *grai* *hti* *pyo* ***ai.***
puk$_{31}$ kʒai$_{31}$ t^{h}i$_{55}$ pjo$_{33}$ ai$_{33}$
CL^{volume} very read interesting SFP|3SG[SUBJ]:DECL
'The book I bought yesterday is very interesting.' (Liu 2006:218 – 219)

Secondly, they do not necessarily occur at the end of a sentence. Some other elements can and must appear after SFPs in Jingpo, as in (2) below.

(2) *Shi* *n* *sa* ***sai*** *kun*?
ʃi$_{33}$ n$_{33}$ sa$_{33}$ sai$_{33}$ kun$_{55}$
3SG not come/go SFP|COS:3SG[SUBJ]-DECL Q
'Will he come here/go there?' (Dai and Xu 1992:267)

In the following two subsections I focus on the elements that occur after SFPs and leave the discussion of the latter to Section 4.3.

4.2.1 Evidentiality

One type of elements that follows Jingpo SFPs is the evidential marker, the grammatical means of expressing how and to what extent speakers stand for the truth of the statements they make (Chafe and Nichols 1986). The lexical instantiations of evidentiality in Jingpo are *da* and *nhten*, as illustrated in (3) below:

(3) a. *Dai* *zon* *nga* *tsun* ***ma ai*** *da.*
tai$_{33}$ tson$_{31}$ ŋa$_{33}$ tsun$_{33}$ ma$^{ʔ}_{31}$ai$_{33}$ ta$^{ʔ}_{31}$
that like say say SFP|3PL[SUBJ]-DECL EVD.QOT

'People say they are just like that.' (Xu, et al 1983:99)

b. *Yong* *jonggok* *jasan jaseng* *sa*
joŋ$_{31}$ tʃoŋ$_{31}$kok$_{31}$ tʃă$_{31}$san$_{31}$tʃă$_{31}$seŋ$_{55}$ sa$_{33}$
all classroom clean come/go
masai *nhten.*
mă$_{33}$sai$_{33}$ n$_{55}$t^{h}en$_{55}$
SFP|3PL[SUBJ]-COS-DECL EVD.PRS
'It is possible that they all go to clean the classroom.'
(Dai and Xu 1992:266)

It has long been noticed that there are different types of evidential markers. Rooryck (2001a, 2001b) point out that despite their semantic differences, evidential markers all share two essential properties, namely, source and reliability (of the information conveyed by the speaker). The former refers to the party that is responsible for the truth of the information whereas the latter refers to the ways in which the information is measured. The evidential markers can vary with regard to these two properties. The differences between the two Jingpo evidential markers illustrated above can be observed along this line: *da* indicates that the information given in the sentence is hearsay and it comes from a non-grammatical person,[46] and *nhten* indicates that the information is the speaker's own guess. Following Jakobson's (1971) classification, I define *da* as a quotative evidential marker and *nhten* as a presumptive evidential marker.

It is worth noting that when the two evidential markers co-occur, they exhibit a fixed ordering as shown by the contrast in (4).

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[46] There is a fundamental distinction observed by many linguists (cf. Forchheimer 1953, Hockett 1966, Benveniste 1971, Jacobson 1971, Noyer 1992, Halle 1997, Harley and Ritter 2002, *inter alia*) between first and second person (i.e. the conversation participants, or "local" arguments in Hockett's terminology) on the one hand, and third person (i.e. the non-participant person, or "non-local" arguments) on the other. According to their analyses, only the local participants, namely the speaker and the addressee, can be defined as true grammatical person.

(4) a. *Shanhte* *hpotni* *sa* *garum* *na*
ʃan$_{55}$t^{h}e$_{33}$ p^{h}ot$_{55}$ni$_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ na$_{33}$
3PL tomorrow come/go help AUX.FUT
nhten *da.*
n$_{55}$t^{h}en$_{55}$ ta$^{?}_{31}$
EVD.PRS EVD.QOT
'People say it is possible that tomorrow they will come/go to help.'

b. **Shanhte* *hpotni* *sa* *garum* *na*
ʃan$_{55}$t^{h}e$_{33}$ p^{h}ot$_{55}$ni$_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ na$_{33}$
3PL tomorrow come/go help AUX.FUT
da *nhten.*
ta$^{?}_{31}$ n$_{55}$t^{h}en$_{55}$
EVD.QOT EVD.PRS
(Int.) 'It is possible that people say tomorrow they will come/go to help.'

The above contrast shows that the quotative evidential marker *da* cannot appear before the presumptive evidential marker *nhten*. In other words, *da* takes a wider scope than *nhten*. This observed ordering constraint complies with Cinque's (1999) hierarchy of functional heads[47] discussed earlier in Section 2.3.2.1, repeated below.

(5) The universal hierarchy of clausal functional projections (Cinque 1999:106)
[*frankly* Mood $_{\text{speech act}}$ [*fortunately* Mood $_{\text{evaluative}}$ [*allegedly* Mood $_{\text{evidential}}$ [*probably* Mod $_{\text{epistemic}}$ [*once* T $_{\text{past}}$ [*then* T $_{\text{future}}$ [*perhaps* Mood $_{\text{irrealis}}$ [*necessarily* Mod $_{\text{necessity}}$ [*possibly* Mod $_{\text{possibility}}$ [*usually* Asp $_{\text{habitual}}$ [*again* Asp $_{\text{repetitive (I)}}$ [*often* Asp $_{\text{frequentative (I)}}$ [*intentionally* Mod $_{\text{volitional}}$ [*quickly* Asp $_{\text{celerative (I)}}$ [*already* T $_{\text{anterior}}$ [*no longer* Asp $_{\text{terminative}}$ [*still* Asp $_{\text{continuative}}$ [*always* Asp $_{\text{perfect (?)}}$ [*just* Asp $_{\text{retrospective}}$ [*soon* Asp $_{\text{proximative}}$ [*briefly* Asp $_{\text{durative}}$ [*characteristically (?)* Asp $_{\text{generic/progressive}}$ [*almost* Asp $_{\text{prospective}}$ [*completely* Asp $_{\text{SgCompletive (I)}}$ [*tutto* Asp $_{\text{PlCompletive}}$ [*well* Voice [*fast/early* Asp $_{\text{celerative (II)}}$ [*again* Asp $_{\text{repetitive (II)}}$ [*often* Asp $_{\text{frequentative (II)}}$ [*completely* Asp $_{\text{SgCompletive (II)}}$]]]

It should be noted that Cinque's notion of evidentiality in (5) is narrower than the definition I adopt in this thesis. The evidential mood in his work lexicalized by the adverb "allegedly" is equivalent to the quotative evidentiality I have just discussed, whereas his epistemic mood lexicalized by the adverb "probably" corresponds to the presumptive evidentiality under our system. By doing so, I still ascribe my approach to the highly articulated structure in (5) thereby commit myself to a universal full inventory of functional categories.

The universal hierarchy in (5) insightfully brings together the two seemingly unrelated issues, namely, adverb distribution and clausal functional structure. However, since one natural consequence of Cinque's work is that an outrageously large inventory of functional categories must be assumed in order to accommodate all the particles, functional words, and inflectional affixes crosslinguistically, many doubts have been raised in the past decade concerning the feasibility of such an approach. Three major critiques[48] on Cinque (1999) are listed below:

(6) a. Although the language index gives reference to over 225 languages and dialects, the hierarchy is almost entirely based on three languages, i.e. Italian, French and English.
b. The hierarchy allows two heads with the "same" or "opposite" semantics to co-occur.
c. The connection between adverbs and their licensing functional heads is too loose to be directly captured.

In other words, to some linguists, the universal hierarchy is not convincing because it is established on the basis of a small and non-representative sample of languages, and the postulation of the highly articulated structure is based purely on morphological evidence. Crucially there is no explanation in Cinque (1999) why these different heads are organized in such a unique way across languages. After all,

[48] See Mannien (2005) for more details.

a different ordering is conceptually possible, as shown, for instance, by the interpretability of the English translation of (4b).

Tenny (2000) takes a moderate view on this issue and modifies Cinque's theory by grouping all the functional categories into six semantic zones, as quoted below:

(7) Tenny's (2000:318) semantic zones and functional projections

a. Point of view (Speaker deixis)	[*frankly* Mood $_{\text{speech act}}$ [*fortunately* Mood $_{\text{evaluative}}$ [*allegedly* Mood $_{\text{evidential}}$ [*probably* Mod $_{\text{epistemic}}$]]]]
b. Deictic time (Temporal deixis)	[*once* T $_{\text{past}}$ [*then* T $_{\text{future}}$
c. Truth value	[*perhaps* Mood $_{\text{irrealis}}$ [*necessarily* Mod $_{\text{necessity}}$ [*possibly* Mod $_{\text{possibility}}$
d. Subject-oriented	[*willingly* Mod $_{\text{volitional}}$ [*inevitably* Mod $_{\text{obligation}}$ [*cleverly* Mod $_{\text{ability/permission}}$
e. Middle aspect	[*usually* Asp $_{\text{habitual}}$ [*again* Asp $_{\text{repetitive (I)}}$ [*often* Asp $_{\text{frequentative (I)}}$ [*intentionally* Mod $_{\text{volitional}}$ [*quickly* Asp $_{\text{celerative (I)}}$ [*already* T $_{\text{anterior}}$ [*no longer* Asp $_{\text{terminative}}$ [*still* Asp $_{\text{continuative}}$ [*always* Asp $_{\text{perfect (?)}}$ [*just* Asp $_{\text{retrospective}}$ [*soon* Asp $_{\text{proximative}}$ [*briefly* Asp $_{\text{durative}}$ [*characteristically (?)* Asp $_{\text{generic/progressive}}$ [*almost* Asp $_{\text{prospective}}$
f. Core event	[*completely* Asp $_{\text{SgCompletive (I)}}$ [*tutto* Asp $_{\text{PlCompletive}}$ [*well* Voice [*fast/early* Asp $_{\text{celerative (II)}}$ [*again* Asp $_{\text{repetitive (II)}}$ [*often* Asp $_{\text{frequentative (II)}}$ [*completely* Asp $_{\text{SgCompletive (II)}}$

Tenny argues that the six zones differ from one another in terms of semantics and that each zone corresponds to a single functional projection. Hence it is unnecessary to establish a universal ordering among all functional heads; rather, only the fixed ordering of the six semantic zones is needed. By classifying the nearly forty functional heads into just six types, the difficulty of explaining the ordering constraint can thus be greatly reduced.

However, the fact that the two evidential heads can co-occur in a restricted relative ordering in Jingpo, which is typologically very different from the Indo-European languages, poses problem to Tenny's proposal of semantic zones. As both functions fall into one single zone, i.e. the point of view zone, by no means is the observed ordering constraint between the two heads predictable under Tenny's framework that would allow elements within the same semantic zone to occur in free order. In next chapter I reduce the fixed ordering restriction between the two evidential heads to syntax and postulate a feature checking analysis to account for their ordering behavior. It is hoped that the analysis can serve as the starting point to show that Cinque's hierarchy (5) is not a mere coincidence, but theoretically accountable. In Chapter 6, I further discuss the critiques of Cinque (1999) (6) by examining the assorted "auxiliaries" in Jingpo and argue that the Jingpo data can be best analyzed by Cinque's (1999) approach.

4.2.2 Speech acts

Aikhenvald (2004) proposes that the evidential marker is hierarchically the highest node in the clause structure as crosslinguistically evidentials always have scope over the entire sentence. The following Jingpo data pose serious challenge to her argument as it is quite natural for Jingpo speakers to add an interrogative particle after the evidential marker and question the source or reliability of the information.[49]

(8)	*Shi*	*wa*	*na*	*da*	*i?*
	ʃi$_{33}$	wa$_{31}$	na$_{33}$	ta$^{?}_{31}$	i$_{51}$
	3SG	return	AUX.FUT	EVD.QOT	Q

'Do people say that he will go home?'

As shown in the above example, the speech act is higher than evidentiality with regard to the hierarchical structure. Nothing in Jingpo can occur outside the

[49] Recall that Jingpo is an SOV language and the data in (8) exhibit a reverse order.

discourse particles which mark the illocutionary force. In other words, *i* in (8) marks the uppermost edge of a clause. Again the ordering constraint complies with Cinque's (1999) hierarchy (5), roughly shown as follows:

(9) ... *na* *da* *i*

[[[... T $_{future}$] ... Mood $_{evidential}$]... Mood $_{speech\ act}$]

In Jingpo the declarative force is unmarked. In line with the Universal Principle discussed in Section 2.3.2.2, repeated in (10) below, I assume that the functional projection Speech Act exists in every clause and in every language.

(10) Uniformity Principle (Chomsky 2001:2)

In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances.

Thus the declarative clauses in Jingpo have a covert force marker *ø* following the evidential marker *da* or *nhten*. The interrogative force, on the other hand, can be morphologically realized as discourse particles. Two such particles have been attested, namely *i* and *kun*, illustrated below. [50]

(11) a. *Shat* *sha* ***saga*** *i?*

ʃat$_{31}$ ʃa$_{55}$ sǎ$_{55}$ka$^{?}_{55}$ i$_{51}$

meal eat SFP|1PL[SUBJ]:EMP-CONS Q

'Shall we have meal?' (Xu, et al 1983:325)

b. *Shi* *a* *ana* *mai* *wa* ***sai*** *i?*

ʃi$^{?}_{55}$ a$^{?}_{31}$ a$_{31}$na$_{31}$ mai$_{33}$ wa$_{31}$ sai$_{33}$ i$_{51}$

3SG:GEN GEN disease heal ASP.INC SFP|COS-3SG[SUBJ]:DECL Q

'Has his disease been healed?' (Dai and Xu 1992:266)

(12) a. *Shi* *n* *sa* ***sai*** *kun?*

ʃi$_{33}$ n$_{33}$ sa$_{33}$ sai$_{33}$ kun$_{55}$

3SG not come/go SFP|COS-3SG[SUBJ]:DECL Q

'Will he come here/go there?' (Dai and Xu 1992:267)

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[50] So far no semantic, syntactic or pragmatic differences have ever been spotted between these two interrogative particles. Since they are fully interchangeable with each other, I simply regarded them as free variants.

b. *Gadai*	*mahkon*	*nga*	***ai***		*kun?*
kă$_{31}$tai$_{33}$	mă$_{31}$k^{h}on$_{55}$	ŋa$_{31}$	ai$_{33}$		kun$_{55}$
who	sing	ASP.IMPF	SFP|3SG[SUBJ]:DECL		Q
'Who's singing?'				(Dai and Xu 1992:47)	

These two discourse particles are not restricted to the matrix clauses. They can also occur at the end of the embedded clauses.

(13)a. [*Ma Tu*	*n*	*ra*	***ai***		*i/kun*]	*sa*
mă$_{31}$tu$_{33}$	n$_{33}$	ʒa$_{31}$	ai$_{33}$		i$_{51}$/ kun$_{55}$	sa$_{33}$
Ma Tu	not	need	SFP|3SG[SUBJ]:DECL		Q	come/go
san	*yu*		***su!***			
san$_{55}$	ju$_{33}$		su$^{?}_{31}$			
ask	AUX.DIM		SFP|3SG[SUBJ]:DIST:IMP			
'Go ask Ma Tu whether he needs (it).'					(Dai and Xu 1992:267)	
b. [*Ganing*	*di*	*yang*	*mai*	*na*	*i/kun*]	
kă$_{31}$niŋ$_{31}$	di$_{33}$	jaŋ$_{31}$	mai$_{33}$	na$_{33}$	i$_{51}$/ kun$_{55}$	
how	LV	if	right	AUX.FUT	Q	
nang	*mung*	*no*	*myit*	*lom*	***rit!***	
naŋ$_{33}$	muŋ$_{31}$	no$^{?}_{55}$	mjit$_{31}$	lom$_{31}$	ʒit$_{31}$	
2SG	also	else	think	AUX	SFP|2SG[SUBJ]:PROX:IMP	
'Please help me think how to make things right!'						
					(Dai and Xu 1992:157)	

Note that when the SFP is immediately followed by *i* or *kun*, as in (11-13), the clause is interrogative. If the clause contains a *wh*-word, it is a *wh*-question (e.g. (12b) and (13b)); if it does not contain any *wh*-word, it is a yes-no question (e.g. (11a), (11b), (12a) and (13a)). In both cases the combination, i.e. a declarative SFP plus an interrogative particle, can be rephrased by a single SFP that marks agreement, aspect, and the interrogative force altogether. Put in another way, Jingpo has both analytic and inflectional means of marking the speech act of a clause (see Section 3.2.2). The latter means is discussed in detail in Section 4.3.1.

It is also worth noting that when the discourse particle *i* or *kun* follows the evidential marker, as in (8), the focus of the question is not the truth of the embedded

proposition any more; instead, it questions the source or reliability of the evidentiality. Compare (8), repeated in (14) below, with the example (15), where the truth of the embedded proposition is the real focus of the resulting question.

(14)	*Shi*	*wa*	*na*	*da*	*i?*
	ʃi$_{33}$	wa$_{31}$	na$_{33}$	ta$^{?}_{31}$	i$_{51}$
	3SG	return	AUX.FUT	EVD.QOT	Q

'Do people say that he will go home?'

(15)	*Shi*	*wa*	*na*	*i?*
	ʃi$_{33}$	wa$_{31}$	na$_{33}$	i$_{51}$
	3SG	return	AUX.FUT	Q

'Will he go home?'

This shows that the speech act structurally scopes over the rest of the clause including evidentiality.

Starting from the next section I discuss Jingpo SFPs which can distinguish six different clause types, including declarative and interrogative clauses. I argue that these SFPs, though they may also mark clause typing, do not originate in the C-domain.

4.3 Sentence final particles

Jingpo has a rich inventory of SFPs. It has been reported that there are around 350 SFPs in total (Dai 1996, 2003), the use of which is obligatory in most cases.[51] They mark five kinds of grammatical functions (Dai and Xu 1992, Chan 2007), namely, agreement, change of state,[52] clause type, emphatic mood and spatial

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[51] The SFPs are not obligatory only when the main verb is a copular or an auxiliary marking future tense, as exemplified below.

i	*Shi*	*go*	*nye*	*sara*	*re.*	
	ʃi$_{33}$	ko$_{31}$	ŋjc$^{?}_{55}$	sǎ$_{31}$ʒa$_{33}$	ʒe$_{51}$	
	3SG	TOP	1SG:GEN	teacher	COP	
	'He is my teacher.'					(Dai & Xu 1992:64)

ii	*Namsi*	*myin*	*hkra*	*she*	*sha*	*na.*
	nam$_{31}$si$_{31}$	mjin$_{33}$	k^{h}ʒa$_{31}$	ʃe$^{?}_{31}$	ʃa$_{55}$	na$_{33}$
	fruit	ripe	AUX	then	eat	AUX.FUT
	'Do not eat (the) fruit(s) until it is/they are ripe.'					(Dai and Xu 1992:151)

[52] The change-of-state function was labeled as "dynamicity" or "aspect" by Chan (2007).

deixis. I introduce those functions one by one in the following subsections. One point needs to be made clear at this moment is that though as their names suggest the Jingpo SFPs occur in the clause-final positions, they always occur inside evidential markers and discourse particles.

According to DeLancey (2008), the SFPs can be subdivided into at least two parts, i.e. prefinal and final. The latter (usually the last syllables or the rhymes of the last syllables of SFPs) encodes exclusively the clause typing information whereas the former codifies the other grammatical functions such as agreement and change of state. I start from the clause typing function in the next subsection and then move to the other four functions encoded by the prefinal part of Jingpo SFPs.

4.3.1 Clause typing

Many languages make use of SFPs to mark clause types and Jingpo is such kind of languages. Jingpo clauses are generally classified into six groups by the traditional grammarians (Dai and Xu 1992, *inter alia*), namely declaratives (16a), interrogatives (16b), imperatives (16c), consultatives[53] (16d), conjectures[54] (16e) and exclamatives (16f), mostly based on the semantic and morphological criteria. Respective examples are given as follows (Dai and Xu 1992:270):[55]

(16)a. *Nang* *sa* ***sin dai.***
naŋ$_{33}$ sa$_{33}$ sin$_{33}$tai$_{33}$
2SG come/go SFP|COS:2SG[SUBJ]-DECL
'You have come here/gone there.'

b. *Nang* *sa* ***sani?***
naŋ$_{33}$ sa$_{33}$ sã$_{55}$ni$_{51}$
2SG come/go SFP|COS:2SG[SUBJ]-Q

[53] Consultatives are used to seek for the hearer's agreement in performing an action.

[54] Conjectures are used to seek for the hearer's confirmation about what is said by the speaker.

[55] Second person cannot be the subject of a consultative clause in Jingpo, as it is conceptually incompatible with the consultative mood.

'Have you come here/gone there?'

c. *Nang* *sa* ***u!***
naŋ$_{33}$ sa$_{33}$ u$^{ʔ}_{31}$
2SG come/go SFP|2SG[SUBJ]:IMP
'You may come/go.'

d. *Ngai* *sa* ***n ga!***
naŋ$_{33}$ sa$_{33}$ n$_{31}$ka$^{ʔ}_{31}$
1SG come/go SFP|1SG[SUBJ]-CONS
'Please let me come/go.'

e. Nang sa **sadong**?
naŋ$_{33}$ sa$_{33}$ sa$^{ʔ}_{33}$toŋ$_{33}$
2SG come/go SFP|COS:2SG[SUBJ]-CONJ
'You have come here/gone there. Am I right?'

f. Nang sa **sahka**!
naŋ$_{33}$ sa$_{33}$ sa$^{ʔ}_{33}$k^{h}a$_{33}$
2SG come/go SFP|COS:2SG[SUBJ]-EXCL
'(It turns out that) you have come here/gone there.'

Dai (1996:62) argues that the final part of each SFP in the above examples, i.e. the six morphemes *ai, ni, u, ga, dong* and *hka* mark the six clause types respectively and are in complementary distribution with one another. Though I agree with his identification of all the other five morphemes, I contend that *u* is not a morpheme indicating imperative clause type; rather, it is a portmanteau form marking both subject and object agreement. In other words, it belongs to the prefinal part of SFPs and can attach to all the other five morphemes (i.e. *ai, ni, ga, dong* and *hka*) in various types of clauses, as illustrated below.

(17)a. *Shi* *go* *gasha* *hpe* ['*Masha* *a* *n-gun* *go*
ʃi$_{33}$ ko$_{31}$ kă$_{31}$ʃa$_{31}$ p^{h}e$^{ʔ}_{55}$ mă$_{31}$ʃa$_{31}$ a$^{ʔ}_{31}$ n$_{31}$kun$_{31}$ ko$_{31}$
3SG TOP child OM people GEN power TOP
htum *lake* *n* *nga* ***ai***'] *nga* ***u ai.***
t^{h}um$_{31}$ lă$_{31}$ke$_{33}$ n$_{33}$ ŋa$_{31}$ ai$_{33}$ ŋa$_{33}$ u$^{ʔ}_{31}$ai$_{33}$
exhaust limit not have SFP say SFP|3SG[SUBJ]:3[OBJ]-DECL
'Human power is limitless', he told the child.' (Xu, et al 1983:851)

b. *Mana* *shi* *Hkonji* *hpe* *n* *sa*
mă$_{55}$na$^{?}_{55}$ ʃi$_{33}$ k^{h}on$_{31}$tʃi$_{31}$ p^{h}e$^{?}_{55}$ n$_{33}$ sa$_{33}$
last night 3SG Hkonji OM not come/go
shaga ***u ni?***
ʃă$_{31}$ka$_{55}$ u$^{?}_{31}$ni$_{51}$
call SFP|3SG[SUBJ]:3[OBJ]-Q
'Didn't he come/go to call Hkonji last night?' (Xu, et al 1983:855)

c. *Shi* *shi* *hpe* *sa* *garum* ***u ga!***
ʃi$_{33}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ u$^{?}_{31}$ka$^{?}_{31}$
3SG 3SG OM come/go help SFP|3SG[SUBJ]:3[OBJ]-CONS
'Let him/her come/go to help him/her.' (Xu, et al 1983:852)

d. *Shi* *La Ring* *hpe* *rai* *n* *shaga*
ʃi$_{33}$ lă$_{31}$ʒiŋ$_{33}$ p^{h}e$^{?}_{55}$ ʒai$_{31}$ n$_{33}$ ʃă$_{31}$ka$_{55}$
3SG La Ring OM still not call
u dong?
u$^{?}_{31}$toŋ$_{33}$
SFP|3SG[SUBJ]:3[OBJ]-CONJ
'He hasn't called La Ring yet. Am I right?' (Xu, et al 1983:852)

e. [*Lu Bu* *shi* *hpe* *zuphpong* *shaga* *sam* ***sai***]
lu$^{?}_{31}$pu$_{55}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ tsup$_{31}$p^{h}oŋ$_{31}$ ʃă$_{31}$ka$_{55}$ sam$_{55}$ sai$_{33}$
Lu Bu 3SG OM meeting call AUX SFP
she *ngu* *yang* *n* *shaga* ***u hka!***
ʃe$^{?}_{31}$ ŋu$_{55}$ jaŋ$_{31}$ n$_{33}$ ʃă$_{31}$ka$_{55}$ u$^{?}_{31}$k^{h}a$_{33}$
only think when not call SFP|3SG[SUBJ]:3[OBJ]-EXCL
'(I thought) Lu Bu has probably asked him to go to the meeting, (but it turns out that) he hasn't called (him) yet.' (Xu, et al 1983:853)

The agreement marker *u* is further discussed in next chapter. For the time being let us simply assume that the imperative force is not morphologically realized in Jingpo.

Besides *ni*, there is another morpheme *ta* that marks the interrogative mood. The differences between the two morphemes lie in the typology of questions. The morpheme *ta* can only occur in *wh*-questions while *ni* is compatible with both *wh*-questions and yes-no questions. The contrast is shown in (18) and (19) below.

(18)a. *Shi* *nang* *hpe* *laika* *ya* ***a ni?***
ʃi$_{33}$ naŋ$_{33}$ p^{h}e$^{?}_{55}$ lai$_{31}$ka$_{33}$ ja$_{33}$ a$^{?}_{31}$ni$_{51}$
3SG 2SG OM book give SFP|1/3SG[SUBJ]-Q

'Did he/she give you a book?'

b. **Shi* *nang* *hpe* *laika* *ya* ***a ta?***

ʃi$_{33}$ naŋ$_{33}$ p^{h}e$^{?}$$_{55}$ lai$_{31}$ka$_{33}$ ja$_{33}$ a$^{?}$$_{31}ta_{51}$

3SG 2SG OM book give SFP|1/3SG[SUBJ]-Q$_{WH}$

(Int.) 'Did he/she give you a book?'

(19)a. *Shi* *nang* *hpe* *hpa* *ya* ***a ni?***

ʃi$_{33}$ naŋ$_{33}$ p^{h}e$^{?}$$_{55}$ p^{h}a$_{33}$ ja$_{33}$ a$^{?}$$_{31}ni_{51}$

3SG 2SG OM what give SFP|3SG[SUBJ]-Q

'What did he/she give to you?'

b. *Shi* *nang* *hpe* *hpa* *ya* ***a ta?***

ʃi$_{33}$ naŋ$_{33}$ p^{h}e$^{?}$$_{55}$ p^{h}a$_{33}$ ja$_{33}$ a$^{?}$$_{31}ta_{51}$

3SG 2SG OM what give SFP|3SG[SUBJ]-Q$_{WH}$

'What did he/she give to you?'

As illustrated in the sentence pairs of the above examples, the morpheme *ni* has broader distribution than *ta*. It can be used in both yes-no questions (18a) and *wh*-questions (19a). On the other hand, *ta* can only occur in *wh*-questions (19b). (18b) is ruled out because there is no overt *wh*-word like *hpa* 'what' to license *ta*.[56]

It is worth pointing out that the above classification of clause types, based purely on semantic and morphological grounds, is at the same time too narrow and too broad. On the one hand, at least one more clause type should be added to the inventory, namely, the promissives, traditionally treated as one instance of imperatives (Dai and Xu 1992). However, it differs from imperative clauses in that the subjects must be first person, not second person, illustrated as follows.

(20)a. *Ngai* *shanhte* *hpe* *sa* *garum*

ŋai$_{33}$ ʃan$_{55}$t^{h}e$_{33}$ p^{h}e$^{?}$$_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$

1SG 3PL OM come/go help

mawe!

mă$_{31}$we$^{?}$$_{31}$

SFP|1[SUBJ]:3PL[OBJ]:PRM

'I'll come/go to help them.' (Dai and Xu 1992:295)

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[56] Jingpo is a *wh*-in-situ language.

b. [*Nanhte* *ka* ***ai***] *laika* *jo* *n*
$nan_{55}t^he_{33}$ ka_{33} ai_{33} $lai_{31}ka_{33}$ $tʃo_{31}$ n_{33}
2PL write SFP character correct not
jo *ya* *yu* *ya* ***masinde!***
$tʃo_{31}$ $ja^?{}_{55}$ ju_{33} ja_{33} $mă_{55}sin_{55}te^?{}_{55}$
correct now look give SFP|1[SUBJ]:2PL[OBJ]:EMP:PRM
'Now I'll check whether the characters that you wrote are correct.'
(Dai and Xu 1992:295)

As in the above examples, the sentence subjects of the promissives are always the first person. Even when the subject is covert as in (20b), it unambiguously refers to the first person, as indicated in the translation.

The promissives are different from consultatives, too. Compare the following examples with (20).

(21)a. *Ngai* *shanhte* *hpe* *sa* *garum*
$ŋai_{33}$ $ʃan_{55}t^he_{33}$ $p^he^?{}_{55}$ sa_{33} $kă_{31}ʒum_{33}$
1SG 3PL OM come/go help
mawe ga!
$mă_{31}we^?{}_{31}ka^?{}_{31}$
SFP|1[SUBJ]:3PL[OBJ]-CONS
'Please let me come/go to help them.'

b. [*Nanhte* *ka* ***ai]*** *laika* *jo* *n*
$nan_{55}t^he_{33}$ ka_{33} ai_{33} $lai_{31}ka_{33}$ $tʃo_{31}$ n_{33}
2PL write SFP character correct not
jo *ya* *yu* *ya* ***masindega!***
$tʃo_{31}$ $ja^?{}_{55}$ ju_{33} ja_{33} $mă_{55}sin_{55}te^?{}_{55}ka^?{}_{31}$
correct now look give SFP|1[SUBJ]:2PL[OBJ]:EMP-CONS
'Please let me check whether the characters you wrote are correct.'

Semantically the consultatives (21) do not have the same interpretation as the promissives (20) in the sense that the speakers are seeking for permission from the hearer. Morphologically the final part of the SFPs marking promissives (20) is not overtly realized while the consultative mood is spelled out as *ga* (21).

On the other hand, the traditional classification of Jingpo clause types is too broad. Crosslinguistically, as noted by Speas and Tenny (2003:319), "the types of speech acts grammaticized in natural languages are surprisingly constrained", and "no language has a special marker for promises, declarations, warnings, forgivings, etc.". According to them, there are only four types of speech acts, namely, declaratives, interrogatives, imperatives, and subjunctives. Postulating other speech acts, e.g. consultatives, conjectures, etc., is an *ad hoc* solution.

Pak, Portner, and Zanuttini (2004, 2005, and 2006) group imperatives, exhortatives,[57] and promissives into one clause type, named jussives. I contend that there are good reasons to extend such analysis to Jingpo and subsume the three clause types, namely imperatives, consultatives, and promissives into one group, as they share many syntactic properties which make them distinct from the other clause types.

Firstly, all three of them pose temporal restrictions on the eventuality depicted in the clauses. The event depicted by the predicate of these clauses is always a situation that has not been realized. All these three clause types are incompatible with either perfective or imperfective aspect markers, as illustrated in (22) and (23) below.

(22)a.	*Nang*	*sha*	*(*yu/*nga)*	***u!***
	$naŋ_{33}$	$ʃa_{55}$	ju_{33}/ $ŋa_{31}$	$u^{ʔ}_{31}$
	2SG	eat	ASP.PERF/IMPF	SFP|2SG[SUBJ]:IMP
	'Please eat (it).'			(Dai and Xu 1992:290)

[57] In Pak, Portner, and Zanuttini's (2004, 2005, and 2006) work, the three clause types falling into the jussive group are promissives, imperatives, and exhortatives. To my knowledge, the exhortatives in their framework are very similar to Jingpo consultatives, although they pose different person restrictions on the subject. While in Korean exhortatives the subject must be an inclusive "we", the subjects in Jingpo consultatives have a wider range. They can be either first person or third person or the inclusive "we".

b. *Shi* *Ma Gam* *hpe* *mung* *mali* *ya*
ʃi$_{33}$ mă$_{31}$kam$_{33}$ p^{h}e$^{?}_{55}$ muŋ$_{31}$ mă$_{31}$li$_{33}$ ja$^{?}_{55}$
3SG Ma Gam OM also four day
(yu/nga) *garum* ***u ai.***
ju$_{33}$/ŋa$_{31}$ kă$_{31}$ʒum$_{33}$ u$^{?}_{31}$ai$_{33}$
ASP.PERF/IMPF help SFP|3SG[SUBJ]:3[OBJ]-DECL
'He also helped Ma Gam for four days.'/
'He has also been helping Ma Gam for four days.'

(Dai and Xu 1992:289)

(23)a. *Ngai* *galo* *(*yu/*nga)* ***de!***
ŋai$_{33}$ kă$_{31}$lo$_{33}$ ju$_{33}$/ŋa$_{31}$ te$^{?}_{31}$
1SG do ASP.PERF/IMPF SFP|1[SUBJ]:2SG[OBJ]:PRM
'I'll do (it) (for you).'

b. *Ngai* *galo* *(*yu/*nga)* ***de ga!***
ŋai$_{33}$ kă$_{31}$lo$_{33}$ ju$_{33}$/ŋa$_{31}$ te$^{?}_{31}$ka$^{?}_{31}$
1SG do ASP.PERF/IMPF SFP|1[SUBJ]:2SG[OBJ]-CONS
'Let me do (it) (for you).'

c. *Ngai* *galo* *(yu/nga)* ***de ai.***
ŋai$_{33}$ kă$_{31}$lo$_{33}$ ju$_{33}$/ŋa$_{31}$ te$^{?}_{31}$ai$_{33}$
1SG do ASP.PERF/IMPF SFP|1[SUBJ]:2SG[OBJ]-DECL
'I did (it) (for you).'/ 'I'm doing (it) (for you).'

The perfective aspect marker *yu* or the imperfective aspect marker *nga* can occur in a declarative clause (22b), but not in an imperative one (22a). The same is true in (23): while *yu* and *nga* can freely occur in a declarative clause (23c), they are disallowed in a promissive (23a) or consultative clause (23b).

Secondly, all three clause types pose restrictions on the lexical/situation aspect of the main verb so that only verbs denoting activities rather than states can appear in these sentences. The following example is hence ruled out as the main verb *chye* depicts a state, not an activity.

(24)* *Chye* ***u/de/de ga!***
tʃe$_{33}$ u$^{?}_{31}$/te$^{?}_{31}$/te$^{?}_{31}$ka$^{?}_{31}$
know SFP|2SG[SUBJ]:IMP/1[SUBJ]:2SG[OBJ]-PRM/1[SUBJ]:2SG[OBJ]-CONS
(Int.) 'Know (you)./I'll know (you)./Let me know (you)'.

Thirdly, they all pose certain person restrictions on the subjects. The imperatives require the subjects to be second person only, and the promissives require the subjects to be first person only. Since the consultative clauses involve the speaker asking the hearer to allow the speaker (first person) or a third party (third person) or the speaker and the hearer together (dual or collective first person) to do something, they require a wider range of subjects; but they do not allow the subjects to be the second person. The person constraint on subjects can be evidenced by the missing cells in the following paradigms.

(25) Imperative SFPs

Subject	Object	[-emphatic]		[+emphatic]	
		[-plural]	[+plural]	[-plural]	[+plural]
1	(2/3)	---	---	---	---
2	1	*ni*	*mani*	*ni*	*mani*
	(3)	*u*	*mu*	*nu*	*manu*
3	(1/2/3)	---	---	---	---

(26) Promissive SFPs

Subject	Object	[-emphatic]		[+emphatic]	
		[-plural]	[+plural]	[-plural]	[+plural]
1	2	*de*	*made*	*sinde*	*masinde*
	3	*we*	*mawe*	*se*	*mase*
2	(1/3)	---	---	---	---
3	(1/2/3)	---	---	---	---

(27) Consultative SFPs[58]

Subject	Object	[-emphatic]		[+emphatic]	
		[-plural]	[+plural]	[-plural]	[+plural]
1	---	*n-ga*	*ga*	*niga*	*saga*
	2	*dega*	*madega*	*sindega*	*masindega*
	3	*wega*	*mawega*	*sega*	*masega*
2	(1/3)	---	---	---	---
3	---	*ritga*	*maritga*	*suga*	*masuga*
	1	*niga*	*maniga*	*	*maniga*
	2	*nitga*	*manitga*	*	*
	3	*uga*	*muga*	*nuga*	*manuga*

Fourthly, only these three clause types, not the others, morphologically distinguish an honorific speech from a non-honorific one, to be discussed in Section

[58] The three cells marked by asterisks are missing due to independent reasons. See Hsieh (2006) for a phonological account.

4.3.4. Finally, all the three types are also conceptually similar in the sense that they all exhort certain kind of requirements, with the only difference lying in the recipient of these requirements. Just as the imperatives are requirements of getting the addressee to perform a certain action, the consultatives are requirements of getting the addressee's permission for the addressor or someone else to perform a certain action, and the promissives are requirements the addressor poses for him/herself. Given all these syntactic, morphological and semantic similarities discussed above, I argue that promissives, imperatives, and consultatives are all members of a single clause type, i.e. a broad class of imperatives, also known as jussives in Pak, Portner, and Zanuttini's (2004, 2005, 2006) framework. By doing so, I reduce the three "functional" sentence moods, in Gärtner and Steinbach's (2006) terms, into just one formal sentence type, and suggest that Jingpo is not unique in terms of the number of sentence types that get grammaticalized.

4.3.2 Agreement

As well accepted, grammatical information can be "displaced". According to Corbett (2006:2), this "displaced information" or "information in the wrong place" is called agreement, a grammatical relation held between a controller and a target. The controller is the element which determines the agreement while the target is the element whose form is determined by the agreement.

In Jingpo, the agreement features are invariably marked in the prefinal part of SFPs. There are three different possible controllers at the clause level. Jingpo SFPs may agree with either the subject, both the subject and the object, or the possessor, in terms of φ-features. I discuss the three types of agreement relations in the following subsections. Note that the morphemes inflected for agreement features cannot be segmented (see Section 4.3.6 for details); rather, they are realized as

portmanteau forms in Jingpo.

4.3.2.1 Subject agreement

As a language with overt agreement morphology, Jingpo has the morphological means of marking φ-features of the subject in the SFPs, illustrated as follows.

(28) a. *Ngai grai tso* ***nngai.***
ŋai$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ n$_{31}$ŋai$_{33}$
1SG very tall SFP|1SG[SUBJ]-DECL
'I am very tall.'

b. *Nang grai tso* ***ndai.***
naŋ$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ n$_{31}$tai$_{33}$
2SG very tall SFP|2SG[SUBJ]-DECL
'You (sg) are very tall.'

c. *Shi grai tso* ***ai.***
ʃi$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
3SG very tall SFP|3SG[SUBJ]:DECL
'He/She is very tall.'

d. *Anhte grai tso* ***ga ai.***
an$_{55}$t^{h}e$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ka$^{?}{}_{31}$ai$_{33}$
1PL very tall SFP|1PL[SUBJ]-DECL
'We are very tall.'

e. *Nanhte grai tso* ***ma dai.***
nan$_{55}$t^{h}e$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ mă$_{31}$tai$_{33}$
2PL very tall SFP|2PL[SUBJ]-DECL
'You (pl) are very tall.'

f. *Shanhte grai tso* ***ma ai.***
ʃan$_{55}$t^{h}e$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ma$^{?}{}_{31}$ai$_{33}$
3PL very tall SFP|3PL[SUBJ]-DECL
'They are very tall.'

All the above sentences are declaratives. The contrast among them lies in the φ-features of the subject of each sentence as well as the prefinal part of the SFPs. The paradigm of SFPs on subject agreement in Jingpo declarative clauses[59] is shown in

[59] By changing the final part of each SFP in (29), we can get the paradigms of SFPs on subject agreement of

(29) below.

(29) Subject agreement in Jingpo declarative clauses (Dai and Xu 1992:280)

Subject	[-change of state]		[+change of state]	
	[-plural]	[+plural]	[-plural]	[+plural]
1	*nngai*	*ga ai*	*sangai*	*saga ai*
2	*ndai*	*ma dai*	*sindai*	*masin dai*
3	*ai*	*ma ai*	*sai*	*ma sai*

4.3.2.2 Object agreement

According to Dai and Xu (1992:286), apart from the subject agreement, if the main predicate is transitive, usually the SFPs also agree with the object in person and number. Examples are shown in (30) below.

(30) a. *Ngai nang hpe grai garum* ***de ai.***
ŋai$_{33}$ naŋ$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ te$^{?}_{31}$ai$_{33}$
1SG 2SG OM very help SFP|1[SUBJ]:2SG[OBJ]-DECL
'I helped you (sg) a lot.'

b. *Ngai shi hpe grai garum* ***we ai.***
ŋai$_{33}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ we$^{?}_{31}$ai$_{33}$
1SG 3SG OM very help SFP|1[SUBJ]:3SG[OBJ]-DECL
'I helped him/her a lot.'

c. *Ngai nanhte hpe grai garum* ***made ai.***
ŋai$_{33}$ nan$_{55}$t^{h}e$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ mă$_{31}$te$^{?}_{31}$ai$_{33}$
1SG 2PL OM very help SFP|1[SUBJ]:2PL[OBJ]-DECL
'I helped you (pl) a lot.'

d. *Ngai shanhte hpe grai garum* ***mawe ai.***
ŋai$_{33}$ ʃan$_{55}$t^{h}e$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$ kă$_{31}$ʒum$_{33}$ mă$_{31}$we$^{?}_{31}$ai$_{33}$
1SG 3PL OM very help SFP|1[SUBJ]:3PL[OBJ]-DECL
'I helped them a lot.'

The above examples exhibit the situations where the SFPs agree with both the subject and the object in terms of φ-features. Note that there is no SFP that can only agree with the object. The subject and object agreement together form one portmanteau form. The complete[60] paradigm is given in the following table:[61]

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other clause types in Jingpo.

[60] The SFPs which agree with the second person subject are not included perhaps because they no longer exist in

(31) Subject and object agreement in Jingpo (Dai and Xu 1992:287 – 288)

Subject	Object	[-change of state]		[+change of state]	
		[-plural]	[+plural]	[-plural]	[+plural]
1	2	*de ai*	*made ai*	*sinde ai*	*masinde ai*
	3	*we ai*	*mawe ai*	*se ai*	*mase ai*
3	1	*ni ai*	*mani ai*	*	*mani ai*
	2	*nit dai*	*manit dai*	*	*
	3	*u ai*	*mu ai*	*nu ai*	*manu ai*

One peculiar property of Jingpo object agreement is that if the subject is first person or if the subject is third person and the object is first or second person, the agreement relation with the subject is only partial. That is to say, only person, not number, agreement obtains, as shown in the glosses in (30). On the other hand, when both the subject and the object are third person, the situation is exactly the opposite. That is, the subject is in a total agreement relation with the SFPs but the agreement relation with the object becomes partial. Only person, not number, agreement obtains. The relevant examples are shown below:

(32) a.

Shanhte	*yong*	*shi*	*hpe*	*yi*	*manga*	*ya*
ʃan$_{55}$t^{h}e$_{33}$	joŋ$_{31}$	ʃi$_{33}$	p^{h}e$^{?}_{55}$	ji$^{?}_{55}$	mă$_{31}$ŋa$_{33}$	ja$^{?}_{55}$
3PL	all	3SG	OM	field	five	day
sa	*chye*	*lom*	***mu ai.***			
sa$_{33}$	tʃe$^{?}_{55}$	lom$_{55}$	mu$^{?}_{31}$ai$_{33}$			
come/go	hoe	AUX	SFP|3PL[SUBJ]:3[OBJ]-DECL			

'They helped him hoe the fields for five days.'

(Dai and Xu 1992:289)

Jingpo. Since Jingpo has been undergoing a grammatical change named analyticity (Dai 2008), it is possible that the SFPs encoding both subject and object agreement (i.e. the least analytic ones) disappear faster than the SFPs encoding only subject agreement. Also see Hsieh (2004, 2006) for a phonological account for the missing cells (marked by asterisks) in the paradigm.

[61] By changing the final part of each SFP in (31), we can get the paradigms of SFPs on object agreement of other clause types in Jingpo.

b. [*Datshin* *pya* ***ai***] *ni* *shanhte* *hpe* [*grai*

tat$_{55}$ʃin$_{31}$ pja$\underline{?}_{55}$ ai$_{33}$ ni$_{33}$ ʃan$_{55}$t^{h}e$_{33}$ p^{h}e$^{?}_{55}$ kʒai$_{31}$

film show SFP PL 3PL OM very

tsom ***ai***] *datshin* *madun* ***mu ai.***

tsom ai$_{33}$ tat$_{55}$ʃin$_{31}$ mă$_{31}$tun$_{55}$ mu$^{?}_{31}$ai$_{33}$

good SFP film guide SFP|3PL[SUBJ]:3[OBJ]-DECL

'The film projectionists showed them a very good film.'

(Xu *et al* 1983:524)

As illustrated in the above examples, the SFP *mu ai* does not discriminate a singular object (32a) from a plural one (32b), indicating that only person not number feature triggers the object agreement. I further explore this issue in Chapter 5 where another instance of partial agreement (i.e. only number but not person feature triggers agreement) is discussed.

4.3.2.3 Possessor agreement

The third type of agreement relations in Jingpo is established between the main predicate and a possessor contained in the subject[62] (Dai and Xu 1992). As illustrated in (33) below, the subject *ma* 'child' is third person throughout the six sentences; however, each sentence ends with a different SFP. This is because in Jingpo, if the subject contains a genitive noun phrase,[63] the SFP can agree with this genitive noun phrase in terms of φ-features.

(33) a. *Nye* *ma* *grai* *tso* ***li ai.***

ŋje$^{?}_{55}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ li$^{?}_{55}$ai$_{33}$

1SG:GEN child very tall SFP|1SG[POSS]-DECL

'My child is very tall.'

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[62] According to Dai and Xu (1992), the SFPs can agree with the possessors in both the subject and object positions. However, during the fieldwork I found that native speakers do not use possessor agreement when the possessor is contained in the object.

[63] Note that as Jingpo is a *pro* drop language (see Section 3.2.3), this genitive noun phrase does not need to physically appear in the sentence. Hence the examples in (33) are still acceptable without an overt genitive. The agreement marking in the SFP can provide the hearer with relevant information about the possessors.

b. *Na* *ma* *grai* *tso* ***lit dai.***
na$^{?}_{55}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ lit$_{55}$tai$_{33}$
2SG:GEN child very tall SFP|2SG[POSS]-DECL
'Your (sg) child is very tall.'

c. *Shi* *ma* *grai* *tso* ***lu ai.***
ʃi$^{?}_{55}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ lu$^{?}_{31}$ai$_{33}$
3SG:GEN child very tall SFP|3SG[POSS]-DECL
'His/Her child is very tall.'

d. *Anhte* *a*[64] *ma* *grai* *tso* ***mali ai.***
an$_{55}$t^{h}e$_{33}$ a$^{?}_{31}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ mã$_{31}$li$^{?}_{55}$ai$_{33}$
1PL GEN child very tall SFP|1PL[POSS]-DECL
'Our child is very tall.'

e. *Nanhte* *a* *ma* *grai* *tso* ***malit dai.***
nan$_{55}$t^{h}e$_{33}$ a$^{?}_{31}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ mã$_{31}$lit$_{55}$tai$_{33}$
2PL GEN child very tall SFP|2PL[POSS]-DECL
'Your child is very tall.'

f. *Shanhte* *a* *ma* *grai* *tso* ***malu ai.***
ʃan$_{55}$t^{h}e$_{33}$ a$^{?}_{31}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ mã$_{31}$lu$^{?}_{31}$ai$_{33}$
3PL GEN child very tall SFP|3PL[POSS]-DECL
'Their child is very tall.'

This kind of agreement, which I call 'possessor agreement',[65] is not unique across

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[64] The three singular personal pronouns have special possessive forms, namely, *nye*, *na*, and *shi*. They may or may not co-occur with the genitive marker *a*. For dual or plural personal pronouns, since they do not have special possessive forms, *a* is obligatory. This is another instance where Jingpo shows mixed morphological properties (see Section 3.2.2). The use of the morpheme *a* is more analytic than that of the special possessive forms. The pronominal system is summarized in the following table.

i The pronominal system in Jingpo

		1st	2nd	3rd
General	Singular	*ngai*	*nang*	*shi*
	Dual	*an*	*nan*	*shan*
	Plural	*anhte*	*nanhte*	*shanhte*
Genitive (inflectional)	Singular	*nye (a)*	*na (a)*	*shi (a)*
	Dual	---	---	---
	Plural	---	---	---
Genitive (non-inflectional)	Singular	*ngai a*	*nang a*	*shi a*
	Dual	*na a*	*nan a*	*shan a*
	Plural	*anhte a*	*nanhte a*	*shanhte a*

Note that the third person singular personal pronoun *shi* and the third person singular genitive pronoun *shi*, though same in form, bear different tones.

[65] It is worth noting that the possessor agreement is not restricted between the possessor and the main predicate.

languages. Some other languages also have cases when the possessor controls agreement on the verb. A couple of examples of possessor agreement in Maithili are quoted below:

(34) a. *Tohar* *bāp* *aelthun.* – Maithili
your-MID HON father-HON came-3HON[SUBJ]-2MID HON[POSS]
'Your father came.' (Corbett 2006:61)

b. *Ham* *torā* *betā-ke* *dekhaliau.* – Maithili
I your-NON HON son-OM saw-1-2NON HON[POSS]
'I saw your son.' (Corbett 2006:61)

As shown in the above examples, the main verbs *aelthun* (34a) and *dekhaliau* (34b) inflect for both the subject and the possessor, the latter of which may be contained in either the subject (34a) or the object (34b).

The paradigm of the Jingpo SFPs when they agree with the genitive noun phrases contained in the subjects of declarative clauses is illustrated in the following table.[66]

(35) Possessor agreement in Jingpo declarative clauses (Dai and Xu 1992:282)

Subject	[-change of state]		[+change of state]	
	[-plural]	[+plural]	[-plural]	[+plural]
1	*li ai*	*mali ai*	*sali ai*	*masali ai*
2	*lit dai*	*malit dai*	*salit dai*	*masalit dai*
3	*lu ai*	*malu ai*	*salu ai*	*masalu ai*

4.3.2.4 The simplification of Jingpo agreement system

According to Dai (2008), the choice among the three types of agreement relations is not definite. Native speakers may choose any one of these. In a sentence with a transitive main verb, two types of agreement relations can be established. One

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It can also happen between the subject of a sentential subject and the main predicate, as illustrated below:

i. [*Shanhte* *hpai* ***ai***] (*go*) [*li* ***ai***] *hkrai* *rai* *malu ai.*
ʃan$_{55}$t^{h}e$_{33}$ p^{h}ai$_{33}$ ai$_{33}$ ko$_{31}$ li$_{33}$ ai$_{33}$ k^{h}ʒai$_{33}$ ʒai$_{55}$ mă$_{31}$lu$^{?}$$_{31}ai_{33}$
3PL carry SFP TOP heavy SFP all COP SFP|3PL(POSS)-DECL
'Everything they carried is heavy.' (Dai and Xu 1992:283)

[66] By changing the final part of each SFP in (35), we can get the paradigms of SFPs on possessor agreement of other clause types in Jingpo.

is between the predicate and both the two arguments, and the other is between the predicate and just the subject. Generally speaking, there is a tendency among Jingpo native speakers to choose the latter over the former.

(36) a. *Ngai* *shi* *hpe* *tsun dan*
ŋai$_{33}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ ts<u>u</u>n$_{33}$tan$_{55}$
1SG 3SG OM tell
nngai/we ai.
n$_{31}$ŋai$_{33}$/we$^{?}_{31}$ai$_{33}$
SFP|1SG[SUBJ]-DECL/SFP|1[SUBJ]:3SG[OBJ]-DECL
'I told him.' (Dai 2008:429)

b. *Shi* *hpe* *mu* *yu* ***sin dai.***
ʃi$_{33}$ p^{h}e$^{?}_{55}$ mu$_{31}$ ju$_{33}$ sin$_{33}$tai$_{33}$
3SG OM see ASP.PERF SFP|COS:2SG[SUBJ]-DECL
'You've seen him.'

In (36a), the SFP *nngai* agrees with the first person singular subject while *we ai* agrees with both the first person subject and the third person singular object. In (36b), due to the fact that there is no SFP which can agree with a second person subject and a third person object in the paradigm (31), the SFP *sin dai* which only agrees with the subject is used. It should be noted that the simplification of SFPs only happens when relevant information is provided by the subject and/or object. In (36b) the object is obligatorily present unless the same information can be gained from the context. Vice versa, if the subject or object is dropped, the SFP which encodes relevant information becomes obligatory unless the information can be drawn from somewhere else.[67]

Apart from the preference of subject over object agreement among native speakers, there are other asymmetries between the two types of agreement relations in Jingpo. For one thing, as discussed in Chan (2007), when an SFP marks object

[67] Recall that Jingpo shows properties that commonly found in both agreement-based *pro* drop languages and context-based *pro* drop languages (see Section 3.2.3).

agreement, the agreement features of the subject must be marked as well. There is no SFP that only marks object agreement. On the other hand, there are a lot of SFPs in Jingpo that exclusively mark subject agreement, even when there is an object in the sentence, as illustrated in (36) above. The second asymmetry is that the object agreement is not held purely between the SFPs and the 'real' objects, illustrated below.

(37) a. *Shi* *ngai* *ko* *gumhpro* *la* *yu*
ʃi$_{33}$ ŋai$_{33}$ ko̲$^{?}_{55}$ kum$_{31}$p^{h}ʒo$_{31}$ la$_{55}$ ju$_{33}$
3SG 1SG from money take ASP.PERF
ni ai.
ni$^{?}_{31}$ai$_{33}$
SFP|3 [SUBJ]:1SG[OBJ]-DECL
'He/She took some money from me.'

b. *Ngai* *nang* *hpe* *mu* *ndai* *tsun*
ŋai$_{33}$ naŋ$_{33}$ p^{h}e$^{?}_{55}$ mu$_{55}$ n$_{33}$tai$_{33}$ tsu̲n$_{33}$
1SG 2SG OM thing this say
sade ai.
sǎ$_{55}$te$^{?}_{55}$ai$_{33}$
SFP|1[SUBJ]:2SG[OBJ]:COS-DECL
'I said this to you.'

In (37), the SFPs do not agree with the φ-features of the direct object *gumhpro* 'money' in (37a), or *mu ndai* 'this matter' in (37b), but to the non-direct object, i.e. the source of the money *ngai* in (37a) or the hearer *nang* in (37b).

There are two ways to account for this phenomenon. One way is to propose an animacy hierarchy in Jingpo that determines which element in a sentence could function as the target of agreement. As drawn in (38) below, the priority of inanimate direct object is ranked lower than the animate indirect object in the animacy hierarchy.

(38) Animacy hierarchy in Jingpo
animate subject>inanimate subject>animate direct object>animate indirect object>inanimate direct object>inanimate indirect object

According to this hierarchy, the verb in (37a) agrees with the animate subject first, and then it seeks for the second animate being in the same sentence, namely *ngai*, and takes it as object, despite the fact that *ngai* is actually the object of the postposition *ko* 'from' rather than the object of the main verb *la* 'take'. The "real" object *gumhpro* 'money' in (37a) does not trigger object agreement due to the presence of a second animate being in the sentence.

The other way to account for the agreement with indirect objects is to propose that the object agreement in Jingpo is deictic in nature, which pays much attention to the path of the action depicted by the predicate. In (37a), the main event of money-giving is about the money being moved from the source (first person) to the goal (third person). In (37b), the main event is about the speaker (source) saying something to the hearer (goal). The targets of agreement always involve a source and a goal, which seems to support the deictic nature of Jingpo verb agreement.

The following pair of examples shows that the second account is more favorable than the first one. In other words, Jingpo speakers make use of agreement relation to indicate the deictic information, rather than animacy.

(39) a. *Nu wa* *ni* *ngai* *hpe* *shi* *e* *ya* *shakau*
nu$_{51}$wa$_{51}$ ni$_{33}$ ŋai$_{33}$ p^{h}e$^{?}_{55}$ ʃi$_{33}$ e$^{?}_{55}$ ja$_{33}$ ʃă$_{31}$k<u>a</u>u$_{33}$
parent PL 1SG OM 3SG OM give marry
manu ai.
mă$_{55}$nu$^{?}_{55}$ai$_{33}$
SFP|3PL[SUBJ]:3[OBJ]:COS-DECL
'(My) parents have married me to him.'

b. *Nu wa* *ni* *ngai* *hpe* *shi* *e* *ya* *shakau*
nu$_{51}$wa$_{51}$ ni$_{33}$ ŋai$_{33}$ p^{h}e$^{?}_{55}$ ʃi$_{33}$ e$^{?}_{55}$ ja$_{33}$ ʃă$_{31}$k<u>a</u>u$_{33}$
parent PL 3SG OM 1SG OM give marry
mani ai.
mă$_{55}$ni$^{?}_{55}$ai$_{33}$
SFP|3PL[SUBJ]:1[OBJ]:COS-DECL
'(My) parents have married her to me.'

The above examples differ from each other only in the choice of SFPs. The resulting sentences, however, have different meanings. Note that the gender feature of the third person singular pronoun *shi* is unspecified. The two object markers *hpe* and *e*, though they differ in form, are in fact interchangeable.[68] Hence nothing but the SFPs are responsible for the meaning differences. In (39a) the SFP *manu ai* agrees with the third person whereas in (39b) the SFP *mani ai* agrees with the first person. The animacy hierarchy does not work very well as the animate direct object *ngai* in (39a) is ranked higher than the animate indirect object *shi*, but the object agreement targets *shi* in lieu of *ngai*.

Dai (2008) argues that the multiple options of agreement relations are result of the simplification of agreement system in the language. To name one thing, the declarative SFPs *ai* and *sai* which are traditionally argued to agree with third person singular subjects are overused among Jingpo speakers. This overgeneralization tendency is indicative of the fact that the agreement system of the language is being simplified. The examples are given as follows.

(40) a. *Ngai grai tso* ***ai.***
ŋai$_{33}$ kʒai$_{31}$ tsǫ$_{31}$ ai$_{33}$
1SG very tall SFP|3SG[SUBJ]-DECL
'I am very tall.'

b. *Anhte yong grai tso* ***ai.***
an$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ kʒai$_{31}$ tsǫ$_{31}$ ai$_{33}$
1PL all very tall SFP|3SG[SUBJ]-DECL
'All of us are very tall.'

c. *Ngai grai tso* ***sai.***
ŋai$_{33}$ kʒai$_{31}$ tsǫ$_{31}$ sai$_{33}$
1SG very tall SFP|3SG[SUBJ]:COS-DECL

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[68] The object marker *e* is a short form of *hpe*. Jingpo speakers make use of two different forms of the same function word to avoid repetition. For a comprehensive discussion of the differential object marker *hpe*, see Chapter 6.

'I become very tall.'

d. *Anhte* *yong* *grai* *tso* ***sai.***
an$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
1PL all very tall SFP|3SG[SUBJ]:COS-DECL
'All of us become very tall.'

The SFPs *ai* and *sai* were traditionally thought to agree with third person singular subjects. However, as shown in (40), they can be used in a sentence with a first person singular (40a&c) or plural (40&40d) subject. According to Dai (2008), the ongoing typological change in Jingpo results in the simplification of the SFP system, which in turn leads to the overuse of *ai* and *sai*. These two SFPs have gradually become generalized clause markers.

Furthermore, there is a tendency for the new generation of Jingpo native speakers to choose subject agreement over possessor agreement when there is a possessor contained in the subject. Thus the following sentences in (41) are preferably used by young speakers, where only one SFP *ai* is used throughout since all the subjects in the six sentences share the same set of φ-features, i.e. third person singular.

(41) a. *Nye* *ma* *grai* *tso* ***ai.***
ŋje$^{ʔ}_{55}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
1SG:GEN child very tall SFP|3SG[SUBJ]-DECL
'My child is very tall.'

b. *Na* *ma* *grai* *tso* ***ai.***
na$^{ʔ}_{55}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
2SG:GEN child very tall SFP|3SG[SUBJ]-DECL
'Your (sg) child is very tall.'

c. *Shi* *ma* *grai* *tso* ***ai.***
ʃi$^{ʔ}_{55}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
3SG:GEN child very tall SFP|3SG[SUBJ]-DECL
'His/Her child is very tall.'

d. *Anhte* *a* *ma* *grai* *tso* ***ai.***
an$_{55}$t^{h}e$_{33}$ a$^{ʔ}_{31}$ ma$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
1PL GEN child very tall SFP|3SG[SUBJ]-DECL

'Our child is very tall.'

e. *Nanhte* *a* *ma* *grai* *tso* ***ai.***
nan$_{55}$t^{h}e$_{33}$ a$^{?}_{31}$ ma$_{31}$ kʒai$_{31}$ tso$_{31}$ ai$_{33}$
2PL GEN child very tall SFP|3SG[SUBJ]-DECL
'Your (pl) child is very tall.'

f. *Shanhte* *a* *ma* *grai* *tso* ***ai.***
ʃan$_{55}$t^{h}e$_{33}$ a$^{?}_{31}$ ma$_{31}$ kʒai$_{31}$ tso$_{31}$ ai$_{33}$
3PL GEN child very tall SFP|3SG[SUBJ]-DECL
'Their child is very tall.'

In brief, the language system gives the speakers much freedom to choose from multiple agreement relations. However, one problem arises as to whether postulating such multiple agreement relations violates the economy principle of Minimalism (see Section 2.2.3). Chomsky (1995a) and van Koppen (2005) propose different notions of "equidistance" to accommodate the similar phenomena attested across languages. In the thesis I will not choose between these two accounts and leave this issue to the future study.

4.3.3 Change of state

One common property shared by declaratives, interrogatives, conjectures, and exclamatives in Jingpo is that all of them can be subdivided into two subcategories: static and dynamic. The contrast between the two can be shown in the following examples:

(42) a. *Shi* *jong* *lung* ***ai.***
ʃi$_{33}$ tʃoŋ$_{31}$ luŋ$_{31}$ ai$_{33}$
3SG school go up SFP|3SG[SUBJ]:DECL
'He/She attends school.' (= 'He/She is a schoolboy.')
(Dai and Xu 1992:272)

b. *Shi* *jong* *lung* ***sai.***
ʃi$_{33}$ tʃoŋ$_{31}$ luŋ$_{31}$ sai$_{33}$
3SG school go up SFP|COS-3SG[SUBJ]:DECL
'He/She has attended school.' (= 'He/She has become a schoolboy.')
(Dai and Xu 1992:272)

(43) a. *Nanhte* *shi laika* *hti* ***mani.***
nan$_{55}$t^{h}e$_{33}$ ʃi$_{31}$lai$_{31}$ka$_{33}$ t^{h}i$_{55}$ mă$_{31}$ni$_{51}$
2PL newspaper read SFP|2PL[SUBJ]-Q
'Do you read newspapers (as a habit)?' (Xu *et al* 1983:481)

b. *Nanhte* *shi laika* *hti* ***masin ni.***
nan$_{55}$t^{h}e$_{33}$ ʃi$_{31}$lai$_{31}$ka$_{33}$ t^{h}i$_{55}$ mă$_{55}$sin$_{55}$ni$_{51}$
2PL newspaper read SFP|2PL[SUBJ]:COS-Q
'Have you read the newspapers?'

(44) a. *Shi* *chye* ***a dong.***
ʃi$_{33}$ tʃe$_{33}$ a$^{?}$$_{31}$toŋ$_{33}$
3SG know SFP|1/3SG[SUBJ]-CONJ
'He/She understands (this), doesn't he/she?'

b. *Shi* *chye* ***sa dong.***
ʃi$_{33}$ tʃe$_{33}$ sa$^{?}$$_{55}$toŋ$_{33}$
3SG know SFP|COS-1/3SG[SUBJ]-CONJ
'He/She has understood (this), hasn't he/she?' (Xu *et al* 1983:704)

(45) a. *Shanhte* *yong* *grai* *shakut* ***ma hka.***
ʃan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ kʒai$_{31}$ ʃă$_{31}$kut$_{31}$ ma$^{?}$$_{31}$k^{h}a$_{33}$
3PL all very diligent SFP|3PL[SUBJ]-EXC
'I never expect that all of them are hard-working!'

b. *Shanhte* *yong* *grai* *shakut* ***masa hka.***
ʃan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ kʒai$_{31}$ ʃă$_{31}$kut$_{31}$ mă$_{55}$sa$^{?}$$_{55}$k^{h}a$_{33}$
3PL all very diligent SFP|3PL[SUBJ]:COS-EXC
'I never expect that they have all become hard-working!'

Gu (2005) argues that the differences between static and dynamic aspect lie in whether a change-of-state meaning is involved or not. As shown in (42) to (45), all the (a)-numbered examples depict states or ongoing events which are being held at the moment of speech whereas the (b)-numbered examples, all containing the morph *s-*[69] in the SFPs, indicate a change from a previous state in the discourse. LaPolla (2003:22) claims that the *s*-prefix has a causativizing, denominative or "intensive" (i.e. change of state) function across Sino-Tibetan languages.

[69] According to Hsieh (2004) *s-*, *sin-* ,and *sa-* are allomorphs of the same morpheme.

Chan, Kan and Gu (2003) also observe a strict co-occurrence restriction between certain aspect markers and SFPs. The inchoative aspect marker *wa* is not compatible with the static SFPs while the imperfective aspect marker *nga* cannot co-occur with the dynamic SFPs. The restriction can be shown in the following examples.

(46) a. **Shi tsom wa* ***ai.***
ʃi$_{33}$ ts̲om$_{31}$ wa$_{31}$ ai$_{33}$
3SG pretty ASP.INC SFP|3SG[SUBJ]:DECL
(Int.) 'He/She has become pretty.' (Chan, Kan and Gu 2003:3)

b. *Shi tsom wa* ***sai.***
ʃi$_{33}$ ts̲om$_{31}$ wa$_{31}$ sai$_{33}$
3SG pretty ASP.INC SFP|COS-3SG[SUBJ] -DECL
'He/She has become pretty.' (Chan, Kan and Gu 2003:3)

(47) a. *Ngai shakram ka nga* ***nngai.***
ŋai$_{33}$ ʃă$_{31}$kʒ̲am$_{33}$ k̲a$_{33}$ ŋa$_{31}$ n$_{31}$ŋai$_{33}$
1SG letter write ASP.IMPF SFP|1SG[SUBJ]-DECL
'I am writing a letter.'

b. **Ngai shakram ka nga* ***sangai.***
ŋai$_{33}$ ʃă$_{31}$kʒ̲am$_{33}$ k̲a$_{33}$ ŋa$_{31}$ să$_{33}$ŋai$_{33}$
1SG letter write ASP.IMPF SFP|COS-1SG[SUBJ]-DECL
(Int.) 'I am writing a letter.'

The incompatibility between inchoative aspect and static SFPs as well as the one between imperfective aspect and dynamic SFPs shown in (46) and (47) can be well explained since the inchoative aspect by definition involves a change from previous state whereas the imperfective aspect by definition depicts an ongoing event or a simple state. Hence the observed incompatibility is conceptual in nature.

Following Dai (1996), I take the morph *ai* as the marker for declarative force since it unanimously appears in every declarative SFPs, regardless of agreement relation or dynamicity. Let us further assume that the agreement with third person singular subject is unmarked in Jingpo, as in many other languages (Forchheimer

1953, Harley and Ritter 2002, *inter alia*), and hence is not morphologically realized. As noted, the change-of-state meaning is brought into the SFPs via *s*-prefixation.[70] The declarative SFPs are summarized in the following table:

(48) Declarative SFPs

Subject	Object	[-change of state]		[+change of state]	
		[-plural]	[+plural]	[-plural]	[+plural]
1	---	*nngai*	*ga ai*	*sangai*	*saga ai*
	2	*de ai*	*made ai*	*sinde ai*	*masinde ai*
	3	*we ai*	*mawe ai*	*se ai*	*mase ai*
2	---	*ndai*	*madai*	*sindai*	*masindai*
3	---	*ai*	*ma ai*	*sai*	*masai*
	1	*ni ai*	*mani ai*	*	*mani ai*
	2	*nit dai*	*manit dai*	*	*
	3	*u ai*	*mu ai*	*nu ai*	*manu ai*

The general absence of a corresponding morpheme encoding non-change-of-state in the above table suggests that Jingpo may not grammaticalize the static aspect at all.[71] Therefore, the SFP *ai* is analyzed as a zero morpheme *ø* indicating agreement with a third person singular plus a declarative morpheme *ai*, whereas *sai* on the other hand, contains one more morpheme, namely the change-of-state prefix *s-*.

The overgeneralization of *ai* and *sai* discussed in the previous section thus can be taken as a byproduct of the analyticity process undergoing in the language. The zero agreement morpheme *ø* is less analytic than other morphologically realized forms, hence is much easier to be dropped during the grammatical change. The overgeneralized clause markers *ai* and *sai* (40), repeated below, may not contain any

[70] Note that the prefix *s-* is realized as *n-* when the SFP marks agreement with both third person subject and first or third person object for independent phonological reasons. Hsieh (2004) argues that the apparently irregular morphology in Jingpo is "in general regulated by (i) the rhythmic constraint and (ii) feature-specific paradigmatic correspondence constraints (which may render syncretism)".

[71] Some may argue that there could be another zero morpheme *ø* marking non-change-of-state, just as the one marking agreement with third person singular subject in *ai* and *sai*. However, it should be noted that though the agreement relation is not morphologically realized in *ai* and *sai*, it can be found in every other SFPs. The fact that not a single instance of a non-change-of-state morpheme has been identified so far makes the argumentation for the existence of another zero morpheme in static SFPs less convincing.

agreement morpheme at all.

(49) a. Ngai grai tso **ai.**
ŋai$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
1SG very tall SFP|3SG[SUBJ]-DECL
'I am very tall.'

b. *Anhte* *yong* *grai* *tso* ***ai.***
an$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
1PL all very tall SFP|3SG[SUBJ]-DECL
'All of us are very tall.'

c. *Ngai* *grai* *tso* ***sai.***
ŋai$_{33}$ kʒai$_{31}$ ts$\underline{o}_{31}$ sai$_{33}$
1SG very tall SFP|3SG[SUBJ]:COS-DECL
'I become very tall.'

d. *Anhte* *yong* *grai* *tso* ***sai.***
an$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ kʒai$_{31}$ ts$\underline{o}_{31}$ ai$_{33}$
1PL all very tall SFP|3SG[SUBJ]:COS-DECL
'All of us become very tall.'

4.3.4 Emphatic mood

As briefly mentioned in Section 4.3.1, one property shared by imperatives, consultatives and promissives is the marking of emphatic mood. Only these three clause types distinguish a mild request or promise from a strong order or assertion. Take the following imperative clauses as an illustration.

(50) a. *Nang* *tsun* ***u.***
naŋ$_{33}$ ts$\underline{u}$n$_{33}$ u$^{?}_{31}$
2SG say SFP|2SG[SUBJ]:IMP
'Please say (it).' (Dai and Xu 1992:271)

b. *Nang* *tsun* ***nu.***
naŋ$_{33}$ ts$\underline{u}$n$_{33}$ nu$^{?}_{55}$
2SG say SFP|EMP-2SG[SUBJ]-IMP
'Say it, right now!' (Dai and Xu 1992:271)

The SFP *u* in (50) brings the sentence a sense of politeness, whereas the SFP *nu* emphasizes the hearer's obligatoriness of performing the action. The promissive and consultative clauses also exhibit the same kind of distinction, as shown in the

following examples.

(51) a. *Ngai* *galo* *ya* ***de!***
ŋai$_{33}$ kă$_{31}$lo$_{33}$ ja$_{33}$ te$^{?}_{31}$
1SG do give SFP|1 [SUBJ]:2SG[OBJ]:PRM
'I'll do (it) (for you).' (Xu *et al* 1983:110)

b. *Ngai* *galo* *ya* ***sinde!***
ŋai$_{33}$ kă$_{31}$lo$_{33}$ ja$_{33}$ sin$_{55}$te$^{?}_{55}$
1SG do give SFP|EMP-1[SUBJ]:2SG[OBJ]:PRM
'I'll definitely do (it) (for you).'

(52) a. *Ngai* *shi* *hpe* *garum* ***wega!***
ŋai$_{33}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ kă$_{31}$ʒum$_{33}$ we$^{?}_{31}$ka$^{?}_{31}$
1SG 3SG OM help SFP|1[SUBJ]:3SG[OBJ]-CONS
'Please let me help him.' (Xu *et al* 1983:878)

b. *Ngai* *shi* *hpe* *garum* ***sega!***
ŋai$_{33}$ ʃi$_{33}$ p^{h}e$^{?}_{55}$ kă$_{31}$ʒum$_{33}$ se$^{?}_{55}$ka$^{?}_{31}$
1SG 3SG OM help SFP|EMP:1[SUBJ]:3SG[OBJ]-CONS
'You must let me help him.'

We can see from the above examples that the prefixes *n-*, *sin-*, and *se-*[72] are allomorphs of the morpheme that marks the emphatic mood.

As introduced in the previous section, the change-of-state marking is restricted to declarative, interrogative, conjecture, and exclamative clauses. Clearly it is in complementary distribution with the emphatic mood marking. If we go through all seven clause types, we can find a striking parallelism between the two seemingly unrelated grammatical functions, illustrated in the following paradigms respectively.

[72] According to Hsieh's (2004) phonological account, all three are irregular realization of the underlying morpheme *sa*.

(53) Change-of-state marking of SFPs that agree with third person subjects and third person objects

Mood	Subject	Object	[-change of state]		[+change of state]	
			[-plural]	[+plural]	[-plural]	[+plural]
declarative	3	3	*u ai*	*mu ai*	*nu ai*	*manu ai*
interrogative	3	3	*u ni*	*mu ni*	*nu ni*	*manu ni*
conjectural	3	3	*u dong*	*mu dong*	*nu dong*	*manu dong*
exclamative	3	3	*u hka*	*mu hka*	*nu hka*	*manu hka*

(54) Emphatic mood marking of the corresponding imperative[73] and consultative SFPs

Mood	Subject	Object	[-emphatic]		[+emphatic]	
			[-plural]	[+plural]	[-plural]	[+plural]
imperative	2	---	*u*	*mu*	*nu*	*manu*
consultative	3	3	*u ga*	*mu ga*	*nu ga*	*manu ga*

(55) Change-of-state marking of SFPs that agree with first person subjects and second or third person objects

Mood	Subject	Object	[-change of state]		[+change of state]	
			[-plural]	[+plural]	[-plural]	[+plural]
declarative	1	2	*de ai*	*made ai*	*sinde ai*	*masinde ai*
		3	*we ai*	*mawe ai*	*se ai*	*mase ai*
interrogative	1	2	*de ni*	*made ni*	*sinde ni*	*masinde ni*
		3	*we ni*	*mawe ni*	*se ni*	*mase ni*
conjecture	1	2	*de dong*	*made dong*	*sinde dong*	*masinde dong*
		3	*we dong*	*mawe dong*	*se dong*	*mase dong*
exclamative	1	2	*de hka*	*made hka*	*sinde hka*	*masinde hka*
		3	*we hka*	*mawe hka*	*se hka*	*mase hka*

(56) Emphatic mood marking of the corresponding promissive and consultative SFPs

Mood	Subject	Object	[-emphatic]		[+emphatic]	
			[-plural]	[+plural]	[-plural]	[+plural]
promissive	1	2	*de*	*made*	*sinde*	*masinde*
		3	*we*	*mawe*	*	*
consultative	1	2	*de ga*	*made ga*	*sinde ga*	*masinde ga*
		3	*we ga*	*mawe ga*	*se ga*	*mase ga*

As shown in the above four tables, the SFPs differ from one row to another only in terms of the illocutionary force marking. The prefinal part of SFPs in each column of (53) and (54), and of (55) and (56) looks exactly the same, which suggests that this part bears the same set of grammatical functions. In this case, it is reasonable to

[73] Note that the agreement relation of the imperative SFPs is different from the SFPs marking the other illocutionary force. In Chapter 5 I apply a feature checking analysis to account for this inconsistency.

group the change-of-state marking and emphatic mood marking together and treated them as one single function.

4.3.5 Spatial deixis

Besides the four grammatical functions discussed in the previous sections, Jingpo SFPs can also encode deictic information that represents spatial relations to the conversation participants. This function is not restricted to any clause type and is commonly used in sentences containing the verb *sa*. In Jingpo there is no separate lexical entry for 'to come' and 'to go'. Instead, a single verb form *sa* is used to express both meanings with different SFPs at the end to disambiguate the two, as shown in (57) below.

(57) a. *Nanhte* *yong* *sa* ***ma rit.***
nan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ sa$_{33}$ mă$_{31}$ʒit$_{31}$
2PL all come/go SFP|2PL[SUBJ]:PROX:IMP
'All of you come (here)!' (Dai and Xu 1992:291)

b. *Nanhte* *yong* *sa* ***ma su.***
nan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ sa$_{33}$ mă$_{31}$su$^{?}_{31}$
2PL all come/go SFP|2PL[SUBJ]:DIST:IMP
'All of you go (there)!'

In (57a) the SFP *marit*, aside from encoding other features, marks the proximal deixis and indicates that the action is towards the speaker, whereas in (57b) the SFP *masu* marks the distal deixis, i.e. a direction away from the speaker. With the presence of the relevant morphemes in the SFPs, the unspecified direction of the action depicted by the main verb becomes clear.

4.3.6 Jingpo SFPs as portmanteau forms

In this section I turn my focus onto the morphology of SFPs. What is intriguing in terms of morphological typology is the plural marking encoded in Jingpo SFPs. Hsieh (2004, 2006) argues that the morpheme *ma-* inflects for a plural noun, and can be found in a wide range of Jingpo SFPs that agree with plural

arguments. The contrast between singular and plural SFPs can be seen below:

(58) a. *Shi* *grai* *shakut* *ai.*
ʃi$_{33}$ kʒai$_{31}$ ʃă$_{31}$ku̲t$_{31}$ ai$_{33}$
3SG very hardworking SFP|3SG[SUBJ]:DECL
'He/She is very hardworking.' (Xu, *et al* 1983:18)

b. *Shanhte* *grai* *shakut* *maai.*
ʃam$_{55}$t^{h}e$_{33}$ kʒai$_{31}$ ʃă$_{31}$ku̲t$_{31}$ ma$^{?}$$_{31}ai_{33}$
3PL very hardworking SFP|3PL[SUBJ]-DECL
'They are very hardworking.' (Dai and Xu 1992:273)

In the above examples, adding *ma-* to the root *ai* (58a) results in a new SFP *maai* as in (58b) which marks the agreement relation with a plural subject like *shanhte*. Such a morphological operation is productive as it can be applied to a majority of the SFPs. However, it is not very difficult to find exceptions, two of which are illustrated below in (59) and (60).

(59) a. *Ngai* *sa* *n-ga!*
ŋai$_{33}$ sa$_{33}$ n$_{31}$ka$^{?}$$_{31}$
1SG come/go SFP|1SG[SUBJ]-CONS
'Let me come/go.' (Xu, *et al* 1983:568)

b. *Anhte* *yong* *sa* *garum* *ga!*
an$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ ka$^{?}$$_{31}$
1PL all come/go help SFP|1PL[SUBJ]:CONS
'Let us all come/go to help.' (Xu, *et al* 1983:138)

(60) a. *Ngai* *go* *jongma* *rai* *nngai.*
ŋai$_{33}$ ko$_{31}$ tʃoŋ$_{31}$ma$_{31}$ ʒai$_{55}$ n$_{31}$ŋai$_{33}$
1SG TOP student COP SFP|1SG[SUBJ]-DECL
'I am a student.' (Xu, *et al* 1983:624)

b. *Anhte* *yong* *Junggo* *masha* *hkrai* *rai*
an$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ tʃuŋ$_{55}$ko$^{?}$$_{31}$ mă$_{31}$ʃa$_{31}$ k^{h}ʒai$_{33}$ ʒai$_{55}$
1PL all Chinese people all COP
ga ai.
ka$^{?}$$_{31}ai_{33}$
SFP|1PL[SUBJ]-DECL
'All of us are Chinese.' (Xu, *et al* 1983:138)

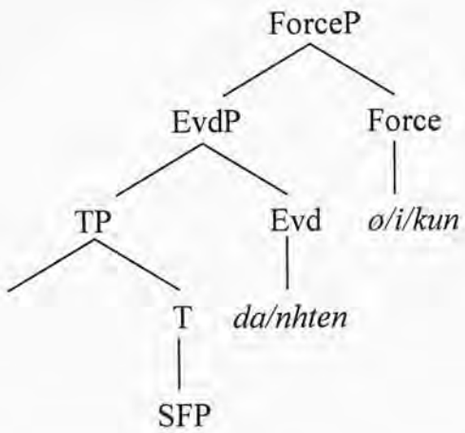
We can see from the above examples that besides addition of *ma-*, deletion of *n-* (59) from *n-ga* to *ga* and substitution[74] of *ga-* for *nng-* (60) can also be used to inflect for plurality in Jingpo SFPs. If we take *maai* in (58b) as a result of prefixation to a singular SFP *ai* (58a), we have to come up with other morphological rules to derive *ga* from *n-ga*, and *ga ai* from *nngai* as well. What is more, we have to specify under what circumstances each rule should be applied. Even if the agreement morphemes of plural number can be successfully found and the rules and specific conditions be successfully proposed, we still have to segment the rest of an SFP in order to get a one-to-one correspondence between form and meaning. It is not difficult to find out that such segmentation is implausible. Based on the aforementioned reasons, in this thesis I treat the Jingpo SFPs as portmanteau forms with each one of them corresponding to a number of grammatical functions.

4.4 The structure of the clause periphery in Jingpo

So far I have reviewed three different elements in the right periphery of Jingpo, namely, evidential markers, interrogative discourse particles and SFPs. In particular, I have discussed the five grammatical functions encoded in the Jingpo SFPs. Given their fixed relative ordering, i.e. SFP-EVD-Q, I assume the following structural representation for Jingpo right periphery (61), whereby the SFPs, the evidential markers and the discourse particles are base-generated in the head positions of TP, EvdP and ForceP respectively.

[74] The relevant morphological process is also known as (partial) suppletion (Bauer 2003).

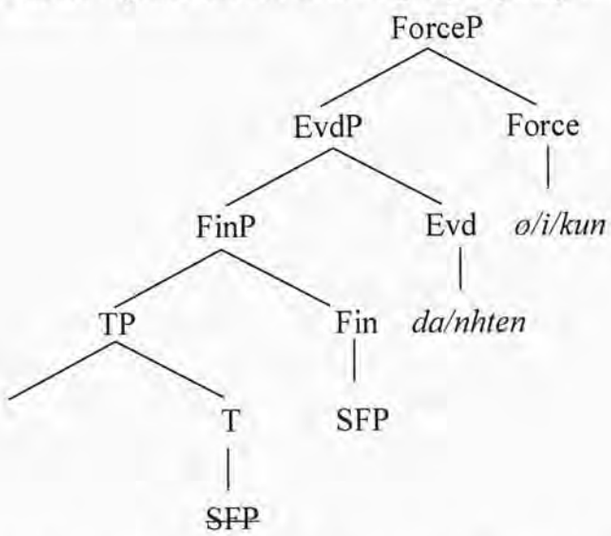
(61) The syntactic representation of the Jingpo right periphery
(a first approximation)



Note that the SFPs are merged to the head T position because the [Spec, TP] position is the loci of Nominative Case assignment and subject agreement. In other words, the SFPs are not elements of the C-domain as they are sensitive only to elements within the range of proposition (i.e. IP/TP), for instance, the grammatical subject which is an argument of the relevant verb.

So far I have not discussed the FinP projection in Rizzi's (1997) framework. We can get the following tree diagram by incorporating FinP to the structure (61).

(62) The structural representation of the right periphery in Jingpo clauses



Let us assume that the [±finite] feature is strong in Jingpo and in each clause the SFP must move to the head position of FinP to check this feature. Note that this would

allow the possibility of syncretism of Fin and Force in Rizzi's (1997) terminology when the Evd head is not overtly filled with any material, which provides the Jingpo speakers with an option between inflectional (63a) and analytic (63b) means of asking questions (see Section 3.2.2).

(63) a. *Shanhte* *yong* *bolung* *htong* *sa* *wa*
ʃan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ po$_{31}$luŋ$_{55}$ t^{h}oŋ$_{31}$ sa$_{33}$ wa$_{55}$
3PL all football kick come/go AUX.INC
masa ni?
mă$_{55}$sa$^{?}$$_{55}ni_{51}$
SFP|COS:3PL[SUBJ]-Q
'Have all of them gone to play football?' (Xu *et al* 1983:499)

b. *Shanhte* *yong* *bolung* *htong* *sa* *wa*
ʃan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ po$_{31}$luŋ$_{55}$ t^{h}oŋ$_{31}$ sa$_{33}$ wa$_{55}$
3PL all football kick come/go AUX.INC
masai *i?*
mă$_{33}$sai$_{33}$ i$_{51}$
SFP|COS:3PL[SUBJ]-DECL Q
'Have all of them gone to play football?'

As shown in the above sentence pair, the same set of morphological features (i.e. change-of-state and unvalued φ-features) are first merged to the head T position, checking the φ-features with the subject *shanhte* in the [Spec, TP] position, and then move to the head Fin position to check the strong [±finite] feature. The feature [+Q], on the other hand, is base-generated at the head position of ForceP. Since there is no overt evidential marker in either clause, the morphological features merged to the head Fin position and the head Force position respectively are syncretized. Whether the relevant features of the syntactic object in question are spelt-out inflectionally as *masa ni* (63a) or analytically as *masai i* (63b) entirely depends on the vocabulary insertion happening at the PF (see Section 2.2.2). In contrast, once the evidential marker is realized, the morphological features merged to the three heads can only be spelt-out analytically (64), because there is no portmanteau form in Jingpo that can

encode the φ-features, the evidentiality, and the interrogative force altogether.

(64) *Shanhte* *yong* *bolung* *htong* *sa* *wa*
ʃan$_{55}$t^{h}e$_{33}$ joŋ$_{31}$ po$_{31}$luŋ$_{55}$ t^{h}oŋ$_{31}$ sa$_{33}$ wa$_{55}$
3PL all football kick come/go AUX.INC
masai *nhten/da* *i?*
mă$_{33}$sai$_{33}$ n$_{55}$t^{h}en$_{55}$/ta$^{?}_{31}$ i$_{51}$
SFP|COS:3PL[SUBJ]-DECL EVD.PRS/QOT Q
'Is it possible that they all have gone to play football?'/
'Is it said that they all have gone to play football?'

In next chapter I attempt a feature checking approach to analyze these peripheral elements and thereby show how many seemingly unrelated properties in Jingpo can be unified under one system.

4.5 The asymmetry between Jingpo matrix and embedded clauses

One point that needs to be clear at this moment is that Jingpo shows a distinct asymmetry between matrix clauses and embedded clauses in terms of their peripheral make-up. The inventory of SFPs that can occur in the embedded clauses is highly restricted. Among the hundreds of SFPs, only the two general clause markers *ai* and *sai* can occur at the end of the relative clauses (Gu 2005). Examples are given as follows:

(65) a. [*ngai* *jahten* *kau* ***sai***] *hka wan*
ŋai$_{33}$ tʃă$_{31}$t^{h}en$_{31}$ kau$_{55}$ sai$_{33}$ k^{h}a$^{?}_{31}$wan$_{33}$
1SG break AUX SFP|COS-3SG[SUBJ]:DECL bowl
'the bowl that I broke.'

b.*[*ngai* *jahten* *kau*
ŋai$_{33}$ tʃă$_{31}$t^{h}en$_{31}$ kau$_{55}$
1SG break AUX
sangai/se ai] *hka wan*
să$_{33}$ŋai$_{33}$/se$^{?}_{55}$ai$_{33}$ k^{h}a$^{?}_{31}$wan$_{33}$
SFP|COS:1SG[SUBJ]/1[SUBJ]:3SG[OBJ]-DECL bowl
(Int.) 'the bowl that I broke.'

The SFP *sai* in (65a) introduces a relative clause and replacing it with *sangai* (subject agreement) or *se ai* (subject and object agreement) is unacceptable as in (65b). The same is true in complement clauses. In (66a) below *ai* introduces a complement clause and it is impossible to replace it with either *ma ai* (subject agreement) or *mu ai* (subject and object agreement) in (66b).

(66) a. [*Shanhte* *labu* *langai* *mi* *mari*
ʃan$_{55}$t^{h}e$_{33}$ lă$_{31}$pu$_{31}$ lă$_{55}$ŋai$_{51}$ mji$_{33}$ mă$_{31}$ʒi$_{33}$
3PL skirt one one buy
ai] *nga* *tsun* ***ai.***
ai$_{33}$ ŋa$_{33}$ ts<u>u</u>n$_{33}$ ai$_{33}$
SFP|3SG[SUBJ]:DECL say say SFP|3SG[SUBJ]:DECL
'He/She said that they bought a skirt.'

b.* [*Shanhte* *labu* *langai* *mi* *mari*
ʃan$_{55}$t^{h}e$_{33}$ lă$_{31}$pu$_{31}$ lă$_{55}$ŋai$_{51}$ mji$_{33}$ mă$_{31}$ʒi$_{33}$
3PL skirt one one buy
ma ai/mu ai] *nga* *tsun*
mă$^{ʔ}_{31}$sai$_{33}$/mu$^{ʔ}_{31}$ai$_{33}$ ŋa$_{33}$ ts<u>u</u>n$_{33}$
SFP|3PL[SUBJ]/3PL[SUBJ]:3[OBJ]-DECL say say
ai.
ai$_{33}$
SFP|3SG[SUBJ]:DECL
(Int.) 'He/She said that they bought a skirt.'

The SFPs in Jingpo embedded clauses cannot encode possessor agreement, either. In the following examples, both clauses contain the SFPs marking possessor agreement, i.e. *salu ai* in the relative clause (67a) and *lu ai* in the complement clause (67b), and hence are unacceptable. The two general clause markers *ai* and *sai* are used instead.

(67) a. [*Mala* *a* *ganu* *yu* *yu*
mă$_{31}$la$_{33}$ a$^{ʔ}_{31}$ kă$_{31}$nu$_{31}$ ju$_{33}$ ju$_{33}$
Mala GEN mother see ASP.PERF
sai/*salu ai] *datshin*
sai$_{33}$ tat$_{55}$ʃin$_{31}$
SFP|COS-3SG[SUBJ]:DECL/3SG[POSS]-DECL film
'the film that Mala's mother has watched'

b. [*Dai* *wa* *a* *manang* *ngai* *hpe* *laika*
tai$_{33}$ wa$_{33}$ a$^{?}_{31}$ mă$_{31}$naŋ$_{33}$ ŋai$_{33}$ p^{h}e$^{?}_{55}$ lai$_{31}$k<u>a</u>$_{33}$
that man GEN friend 1SG OM book
buk *mi* *shap* *ya* ***ai/*lu ai***]
puk$_{31}$ mji$_{33}$ ʃap$_{31}$ ja$_{33}$ ai$_{33}$
CL one loan give SFP|3SG[SUBJ]:DECL/3SG[POSS]-DECL
zonnon ***nngai.***
tson$_{31}$non$_{55}$ n$_{31}$ŋai$_{33}$
think SFP|1SG[SUBJ]-DECL
'I think a friend of that man borrowed me a book.'

We can see clearly from the above examples that the embedded SFPs cannot encode any agreement features.[75]

Jingpo complement clauses differ from relative clauses, however, in that it also allows interrogative particles to co-occur with *ai* or *sai*. The examples have been introduced in Section 4.2.2, and are now repeated here.

(68) [*Ma Tu* *n* *ra* ***ai*** <u>*i/kun*</u>]
mă$_{31}$t<u>u</u>$_{33}$ n$_{33}$ ʒa$_{31}$ ai$_{33}$ i$_{51}$/ k<u>u</u>n$_{55}$
Ma Tu not need SFP|3SG[SUBJ]-DECL Q
sa *san* *yu* ***su!***
sa$_{33}$ san$_{55}$ ju$_{33}$ su$^{?}_{31}$
come/go ask AUX.DIM SFP|3SG[SUBJ]:DIST:IMP
'Go ask Ma Tu whether he needs (it).' (Dai and Xu 1992:267)

The SFPs in the interrogative complement clauses do not encode any agreement feature either, as shown below.

(69) [*Dai* *wa* *a* *manang* *ni* *daini* *hpa* *mari*
tai$_{33}$ wa$_{33}$ a$^{?}_{31}$ mă$_{31}$naŋ$_{33}$ ni$_{33}$ tai$_{31}$ni$_{55}$ p^{h}a$_{33}$ mă$_{31}$ʒi$_{33}$
that man GEN friend PL today what buy
ai/*ma ai/*mu ai/*lu ai] <u>*i/kun*</u>
ai$_{33}$/ma$^{?}_{31}$ai$_{33}$/mu$^{?}_{31}$ai$_{33}$/lu$^{?}_{31}$ai$_{33}$ i$_{51}$/ k<u>u</u>n$_{55}$
SFP|3SG[SUBJ]/3PL[SUBJ]/3PL[SUBJ]:3[OBJ]/3SG[POSS]-DECL Q

[75] Recall that following Dai (2008) I propose that *ai* and *sai* have been grammaticalized as the general clause markers and do not mark agreement relations any more.

ngai	*chye*	*mayu*	***nngai.***
ŋai$_{33}$	tʃe$_{33}$	mă$_{31}$ju$_{33}$	n$_{31}$ŋai$_{33}$
1SG	know	want	SFP|1SG[SUBJ]-DECL

'I wonder what the friends of that man bought today.'

Note that the three clause types falling into the general class of imperatives (see Section 4.3.1), namely, imperatives, promissives and consultatives, cannot be embedded, as shown below (70b-d). In order to convey the same information the auxiliary *na* is used instead (70a).[76]

(70) a. [*Nang go shi hpe galo na*] *nga*

naŋ$_{33}$	ko$_{31}$	ʃi$_{33}$	p^{h}e$^{ʔ}_{55}$	kă$_{31}$lo$_{33}$	na$_{33}$	ŋa$_{33}$
2SG	TOP	3SG	OM	do	FUT	say

we ai.

we$^{ʔ}_{31}$ai$_{33}$

SFP|1[SUBJ]:3SG[OBJ]-DECL

'I told him that you would do (it).'

b.* [*Nang go shi hpe galo* ***u***]

naŋ$_{33}$	ko$_{31}$	ʃi$_{33}$	p^{h}e$^{ʔ}_{55}$	kă$_{31}$lo$_{33}$	u$^{ʔ}_{31}$
2SG	TOP	3SG	OM	do	SFP|2SG[SUBJ]:IMP

nga ***we ai.***

ŋa$_{33}$	we$^{ʔ}_{31}$ai$_{33}$
say	SFP|1[SUBJ]:3SG[OBJ]-DECL

(Int.) 'I told him that you would do (it).'

c.* [*Ngai go shi hpe galo* ***we***]

ŋai$_{33}$	ko$_{31}$	ʃi$_{33}$	p^{h}e$^{ʔ}_{55}$	kă$_{31}$lo$_{33}$	we$^{ʔ}_{31}$
1SG	TOP	3SG	OM	do	SFP|1[SUBJ]:3SG[OBJ]:PRM

nga ***we ai.***

ŋa$_{33}$	we$^{ʔ}_{31}$ai$_{33}$
say	SFP|1[SUBJ]:3SG[OBJ]-DECL

(Int.) 'I told him that I would do (it) (for him).'

d.* [*Ngai go shi hpe galo* ***we ga***]

ŋai$_{33}$	ko$_{31}$	ʃi$_{33}$	p^{h}e$^{ʔ}_{55}$	kă$_{31}$lo$_{33}$	we$^{ʔ}_{31}$ka$^{ʔ}_{31}$
1SG	TOP	3SG	OM	do	SFP|1[SUBJ]:3SG[OBJ]:CONS

[76] Recall that Jingpo imperative, promissive and consultative SFPs pose different person constraints on the subjects. The subjects of the embedded clauses in (70c) and (70d) cannot be first person.

nga ***we ai.***

ŋa$_{33}$ we$^{?}{}_{31}$ai$_{33}$

say SFP|1[SUBJ]:3SG[OBJ]-DECL

(Int.) 'I asked him to let me do (it) (for him).'

The remaining two clause types, namely exclamatives and conjectures, cannot appear in the embedded clauses either, illustrated as follows.

(71) a. *Shi* *hkrai* *sha* *mam* *sa* *dan*

ʃi$_{33}$ k^{h}ʒai$_{33}$ ʃa$_{31}$ mam$_{33}$ sa$_{33}$ tan$_{31}$

3SG alone LV rice come/go crop

a hka.

a$^{?}{}_{31}$k^{h}a$_{33}$

3SG[SUBJ]-EXCL

'It turns out that he/she went to crop the rice by himself/herself.'

(Xu *et al* 1983:11)

b. [*Shi* *hkrai* *sha* *mam* *sa* *dan*

ʃi$_{33}$ k^{h}ʒai$_{33}$ ʃa$_{31}$ mam$_{33}$ sa$_{33}$ tan$_{31}$

3SG alone LV rice come/go crop

ai/*a hka] *ya* *she* *chye*

ai$_{33}$/a$^{?}{}_{31}$k^{h}a$_{33}$ ja$^{?}{}_{55}$ ʃe$^{?}{}_{31}$ tʃe̲$_{33}$

SFP|3SG[SUBJ]-DECL/3SG[SUBJ]-EXCL now just know

nngai.

n$_{31}$ŋai$_{33}$

SFP|1SG[SUBJ]-DECL

'I just realized that he/she went to crop the rice by himself/herself.'

(72) a. *Shi* *daini* *nta* *n* *nga* ***a dong?***

ʃi$_{33}$ tai$_{31}$ni$_{55}$ n$_{55}$ta̲$_{51}$ n$_{33}$ ŋa$_{31}$ a$^{?}{}_{31}$toŋ$_{33}$

3SG today home not have SFP|3SG[SUBJ]-CONJ

'He/She is not at home today, isn't he/she?' (Xu *et al* 1983:7)

b. [*Shi* *daini* *nta* *n* *nga*

ʃi$_{33}$ tai$_{31}$ni$_{55}$ n$_{55}$ta̲$_{51}$ n$_{33}$ ŋa$_{31}$

3SG today home not have

ai/*a dong] *ngu* ***nngai.***

ai$_{33}$/a$^{?}{}_{31}$toŋ$_{33}$ ŋu$_{55}$ n$_{31}$ŋai$_{33}$

SFP|3SG[SUBJ]-DECL/3SG[SUBJ]-CONJ feel SFP|1SG[SUBJ]-DECL

'I think that he/she is not at home today.'

As seen from the above examples, neither exclamative clause (71b) nor conjecture clause (72b) can be embedded in Jingpo. In both examples, the general clause marker *ai* is used instead.

It is clear from the discussion so far that besides the two-way distinction of clause types (i.e. declarative and interrogative force), the only grammatical function that can be marked is change-of-state. Since the imperative, consultative and promissive SFPs cannot occur in the embedded clauses, it naturally follows that the grammatical function which is exclusive to these three clause types, namely, the emphatic mood marking, cannot be embedded as well.

As shown in (73) below, the remaining grammatical function usually encoded by SFPs, i.e. deictic marking, cannot appear in the embedded clauses either.

(73) a. *Shi* *chye* *wa* ***ra ai.***
ʃi$_{33}$ tʃe̲$_{33}$ wa$_{31}$ ʒa$^{ʔ}_{31}$ai$_{33}$
3SG know AUX.INC SFP|3SG[SUBJ]:PROX-DECL
'He/she has started getting (it).' (Dai and Xu 1992:274)

b. *Shi* *chye* *wa* ***ai/*ra ai.***
ʃi$_{33}$ tʃe̲$_{33}$ wa$_{31}$ ai$_{33}$/ʒa$^{ʔ}_{31}$ai$_{33}$
3SG know AUX.INC SFP|3SG[SUBJ](:PROX)-DECL
ngu ***nngai.***
ŋu$_{55}$ n$_{31}$ŋai$_{33}$
feel SFP|1SG[SUBJ]-DECL
'I think that he/she has started getting (it).'

Though the SFP *ra ai* can introduce a matrix clause and denote proximal deixis (73a), it cannot be used to introduce an embedded clause (73b).

It is worth noting that the two evidential markers *nhten* and *da* cannot be embedded either, as illustrated below.

(74) a. *Ndai* *datshin* *nang* *mahkoi* *rai* *n*
n$_{33}$tai$_{33}$ tat$_{55}$ʃin$_{31}$ naŋ$_{33}$ mă$_{33}$k^{h}oi$_{33}$ ʒai$_{31}$ n$_{33}$
this film 2SG perhaps still not

mu *yu* *nhten.*

mu_{31} ju_{33} $n_{55}t^{h}en_{55}$

see ASP.PERF EVD.PRS

'It is possible that you have not watched this film yet.'

(Dai and Xu 1992:196)

b.*[*Ndai* *datshin* *nang* *mahkoi* *rai* *n*

$n_{33}tai_{33}$ $tat_{55}ʃin_{31}$ $naŋ_{33}$ $mă_{33}k^{h}oi_{33}$ $ʒai_{31}$ n_{33}

this film 2SG perhaps still not

mu *yu* *nhten*] *ngu* ***nngai.***

mu_{31} ju_{33} $n_{55}t^{h}en_{55}$ $ŋu_{55}$ $n_{31}ŋai_{33}$

see ASP.PERF EVD.PRS feel SFP|1SG[SUBJ]-DECL

'I think it is possible that you have not watched this film yet.'

(75) a. *Shi* *labu* *langai* *mi* *mari* *la*

$ʃi_{33}$ $lă_{31}pu_{31}$ $lă_{55}ŋai_{51}$ mji_{33} $mă_{31}ʒi_{33}$ la_{55}

3SG skirt one one buy AUX

sai *da.*

sai_{33} $ta^{ʔ}{}_{31}$

SFP|COS-3SG[SUBJ]-DECL EVD.QOT

'People say he/she has bought a dress.'

b.*[*Shi* *labu* *langai* *mi* *mari* *la*

$ʃi_{33}$ $lă_{31}pu_{31}$ $lă_{55}ŋai_{51}$ mji_{33} $mă_{31}ʒi_{33}$ la_{55}

3SG skirt one one buy AUX

sai *da*] *ngai* *hpe*

sai_{33} $ta^{ʔ}{}_{31}$ $ŋai_{33}$ $p^{h}e^{ʔ}{}_{55}$

SFP|COS:3SG[SUBJ]-DECL EVD.QOT 1SG OM

tsun dan ***ni ai.***

$tsun_{33}tan_{55}$ $ni^{ʔ}{}_{31}ai_{33}$

tell SFP|3[SUBJ]:1SG[OBJ]-DECL

'People told me that he/she has bought a dress.'

As we can see from the above examples that neither the presumptive evidentiality marked by *nhten* (74b) nor the quotative evidentiality marked by *da* (75b) can occur in Jingpo embedded clauses.

In a nutshell, the asymmetry between Jingpo matrix and embedded clauses can be summarized in the following table where the asterisk indicates the absence of the relevant grammatical function.

(76)The asymmetry between matrix clauses and embedded clauses in Jingpo

	SFPs					Evidentiality		*i/kun/ ø*
	Agree	Deixis	Emphatic	Change of State	Clause type	*nhten*	*da*	
Matrix Clause	√	√	√	√	√	√	√	√
Embedded Clause	*	*	*	√	*	*	*	√

As we can see from the above table, while all kinds of SFPs, evidential markers, and discourse particles can occur in the matrix clauses, the inventory of functional categories that can occur to the right periphery of the embedded clauses in Jingpo is highly restricted. The embedded SFPs can only distinguish a declarative clause from an interrogative one by the presence or absence of the discourse particle *i/kun*, and an ongoing event (marked by *ai*) from a change-of-state one (marked by *sai*).

4.6 Concluding remarks

In this chapter I have discussed the behavior and distribution of right peripheral elements in Jingpo, including evidential markers, discourse particles, and SFPs, as well as their syntactic organization. Following Cinque (1999) and Tenny's (2000) hierarchy of functional heads, I argue that while the discourse particles occupy the highest node of the CP zone, the evidential markers are merged to the head of EvdP, which is located between ForceP and FinP. On the other hand, since SFPs bear agreement morphemes, they are merged to the head T position first, checking agreement features and then moved to the lowest functional head of the CP domain, i.e. the head of FinP.

In next chapter, I discuss how these clause edge particles manifest the Jingpo functional heads in the CP-domain, and propose a feature checking analysis to account for various phenomena in Jingpo, including the ordering constraint between different evidential markers, the speaker- or hearer-oriented agreement marking, the

agreement-shifting property of the imperative mood, and the constraint of the person feature marking on subjects. I demonstrate how these seemingly unrelated aspects of Jingpo grammar can be reduced to morphosyntactic features associated with different projections and be captured under a unified feature checking account. In particular, I show why no specific treatment for particular constructions is needed to account for the correlation between pragmatic roles and clause edge particles at the right periphery in the language.

Chapter 5 Feature Checking at the Right Periphery

5.1 Introduction

In this chapter I postulate a feature checking analysis to account for the observed ordering constraint between the two types of evidentiality in Jingpo, i.e. the quotative evidential marker *da* and the presumptive evidential marker *nhten*. The primary purpose of this chapter is to show that Cinque's (1999) hierarchy may not be a mere coincidence, but theoretically accountable. It is also demonstrated that many seemingly unrelated puzzles in Jingpo can be unified under our system.

5.2 Syntactic analysis of Jingpo evidentiality

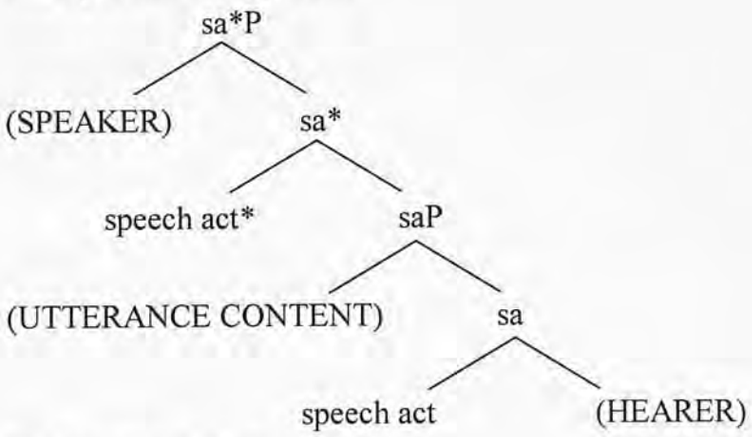
The present analysis is based on two theoretical assumptions: one is Speas and Tenny's (2003) framework for the "higher" clausal domains and the other is the universal feature geometry for pronominals and referring expressions adapted by Tenny (2006) from Harley and Ritter (2002).

5.2.1 The syntax of speech act and sentience

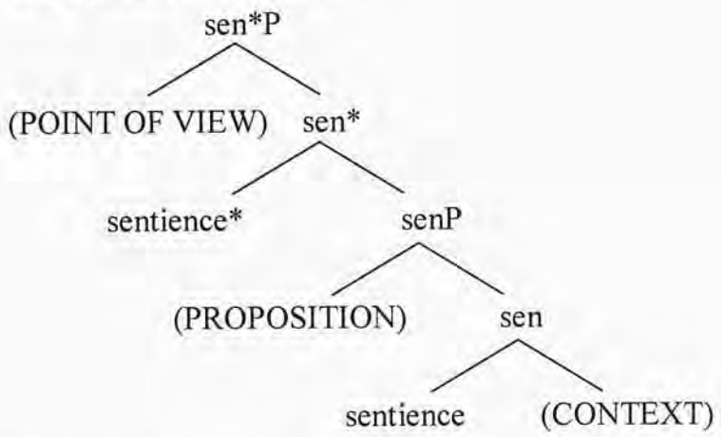
As discussed in the last chapter, Speas and Tenny (2003) have observed that many logically possible speech acts are never grammaticalized and the inventory of grammatically relevant pragmatic roles is highly constrained as well. The speech acts and the pragmatic roles are so constrained that an adequate theory should be able to formulate a system to predict their syntactic representations. Hence they developed their theory by postulating two functional projections in the left periphery of the clause, namely, the speech act projection, i.e. saP, also known as ForceP in Rizzi's (1997) terminology, and the sentience projection, i.e. senP, also known as EvdP in Cinque's (1999) terminology, as illustrated in the following tree diagrams.[77]

[77] Speas and Tenny (2003) regard both saP and senP as three-place predicates. They hence apply Larson's (1988)

(1) a. The Speech Act Projection



b. The Sentience Projection



By proposing the two projections saP (1a) and senP (1b), Speas and Tenny show that the crosslinguistic limit on possible grammatical moods can be reduced to the fact that formal features can only be checked via head movement or spec-head configuration (see Section 2.2.4). They also argue that the pragmatic roles (capitalized in the tree diagrams), i.e. the speaker, the hearer, etc, are not primitive linguistic notions; rather, they are defined in terms of their structural positions. Since the number of structural positions available in the syntactic projections is limited, the inventory of pragmatic roles is highly constrained.

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treatment of double object constructions in their structures of saP and senP. In the tree diagrams quoted here, the nodes marked with asterisks belong to the outer layers of saP and senP respectively, whereas the ones without asterisks constitute the inner core of saP and senP. According to them, the head movement of Speech Act (1a) or Sentience (1b) results in the projection of the outer layers of saP and senP, analogous to Larson's V-to-v movement.

In (1a), the head of the outermost peripheral projection saP encodes illocutionary force, indicating whether the sentence is a statement, a question, etc. Its external argument is the speaker, i.e. the agent of the speech act, and it also takes two internal arguments: one is the hearer, i.e. the goal of the speech act, and the other is the utterance content (the information the sentence conveys, i.e. the theme of the speech act). Speas and Tenny (2003) claim that the Speech Act head moves from the lower head position to the higher one to check features (to be discussed shortly), creating the higher "shell" projection, analogous to a shell projection in the VP. I assume that in Jingpo this head can be overtly realized by the interrogative particles *i* or *kun*.

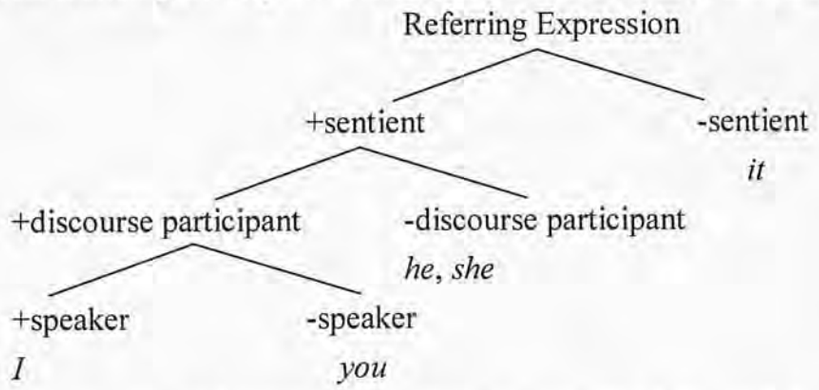
As shown in (1b), the same structural organization can be extended to the second projection senP. It is headed by another three-place predicate, i.e. Sentience, which takes an external argument, the seat of knowledge, or the point of view (henceforth POV), and two internal arguments, namely, the proposition (i.e. IP) and the context. The Sentience head encodes the source of the information, so it can be morphologically realized by evidential markers. Considering that the two evidential markers *da* and *nhten* can be stacked in Jingpo, I assume that the senP is recursive.

5.2.2 The feature geometry of referring expressions

Tenny (2006) adapted Harley and Ritter's (2002) universal pronominal feature system, as quoted in (2) below. The feature geometry shows that a referring expression or a pronominal can be specified with the features [±sentient] (henceforth [±sen]), [±discourse participant] (henceforth [±dis part]), and [±speaker] (henceforth [±sp]). The feature [±sen] distinguishes humans from other beings which do not have epistemic states; the feature [±dis part] distinguishes grammatical persons from the non-grammatical one; finally, the [±sp] feature distinguishes the speaker from

the hearer.

(2) Universal feature geometry for referring expressions (Tenny 2006:264)



Tenny (2006) argues that the [±sen] feature should be checked at the [Spec, senP] position and that the referential items marked [+sen] must undergo movement to the [Spec, senP] position in order to check this feature.

5.2.3 The syntactic representations of the two types of evidentiality

Note that all the features in (2) are discourse-related. They are external to the meaning interpretation mechanism of syntax as they are irrelevant to semantic interpretation of sentences, so they must be checked and deleted at C_{HL} (see Section 2.2.4 for details). Following the feature geometry (2), the Jingpo evidential marker *da* by default can be taken as being encoded with the [+sen] and [-dis part] features. Given that the information source of *nhten* varies from sentence to sentence, it can be assumed that its feature values are left open before the syntactic derivation and are inherited later from its nearest c-commanding head, which are usually speaker-oriented in a declarative sentence and hearer-oriented in an interrogative sentence. So the features of *nhten* have no default values. The examples in (3a) and (3b) below can thus be roughly represented in (4a) and (4b) respectively:

(3) a. *Dai* *zon* *nga* *tsun* ***ma ai*** *da.*
tai$_{33}$ tson$_{31}$ ŋa$_{33}$ tsun$_{33}$ ma$^{?}_{31}$ai$_{33}$ ta$^{?}_{31}$
that like say say SFP|3PL[SUBJ]-DECL EVD.QOT
'People say they are just like that.' (Xu et al 1983:99)

b. *Yong* *jonggok* *jasan jaseng* *sa*

joŋ$_{31}$ tʃoŋ$_{31}$kok$_{31}$ tʃă$_{31}$san$_{31}$tʃă$_{31}$seŋ$_{55}$ sa$_{33}$

all classroom clean come/go

masai *nhten.*

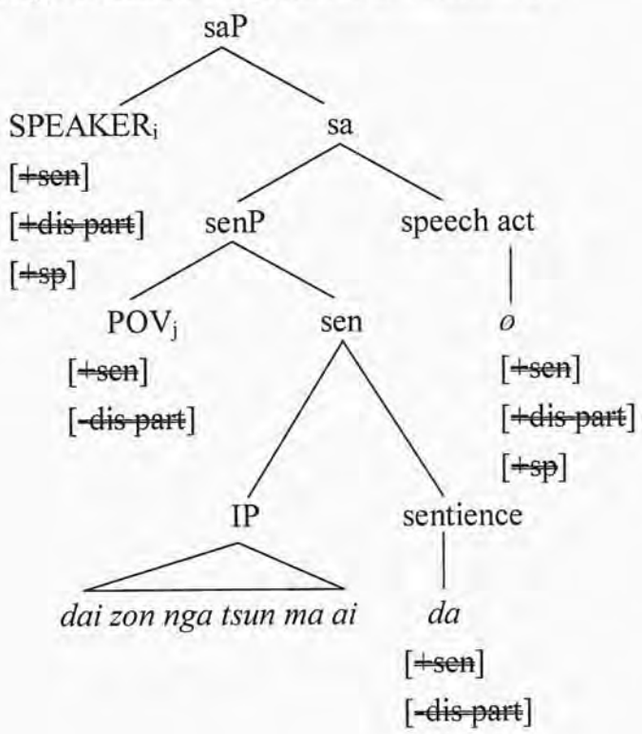
mă$_{33}$sai$_{33}$ n$_{55}$t^{h}en$_{55}$

SFP|3PL[SUBJ]:COS-DECL EVD.PRS

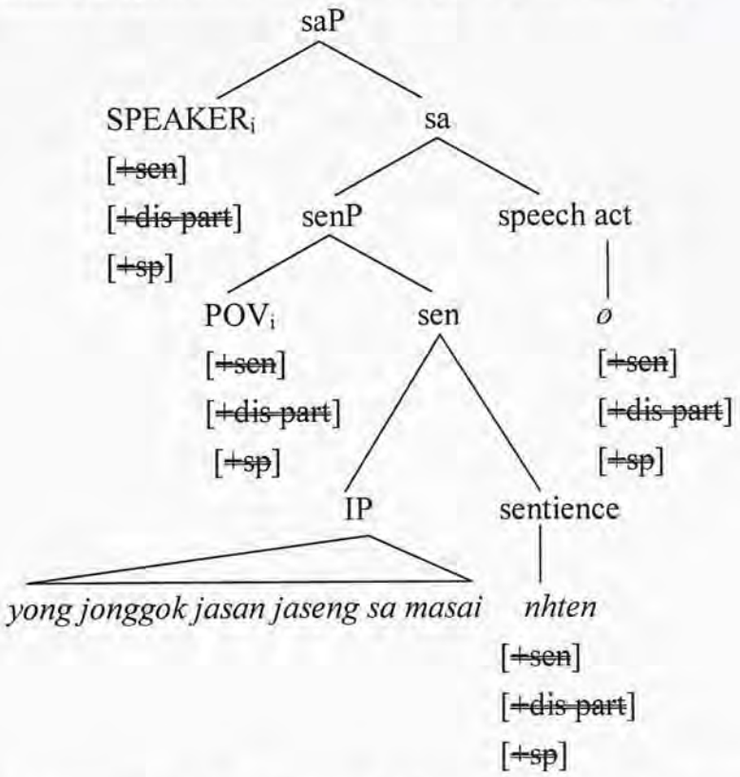
'It is possible that they all go to clean the classroom.'

(Dai and Xu 1992:266)

(4) a. Structural Representation of Quotative Evidentiality



b. Structural Representation of Presumptive Evidentiality



Note that the Speech Act head in Jingpo declarative clauses is not overtly realized, hence is represented by a zero morpheme *ø* in the above tree diagrams. The Speech Act head must agree with the pragmatic role SPEAKER in the [Spec, saP] position with the pronominal features [+sen], [+dis part] and [+sp]. The Sentience head *da* in (4a), bearing the [+sen] and [-dis part] features, agrees with the POV of a third party. In (4b), the Sentience head *nhten,* since it does not carry any default value itself, inherits the pronominal feature values from its nearest c-commanding head, i.e. the Speech Act head *ø*. The syntactic differences between (4a) and (4b) can thus be reduced to the co-indexing relation between pragmatic roles. The pragmatic role SPEAKER in (4b) is co-indexed with POV, i.e. the source of information, hence is speaker-oriented. However, this relation cannot be established in (4a), since the two pragmatic roles point to different referents in the context. Put slightly differently, the POV of the quotative evidential marker *da* is more like a referring expression in the sense that it cannot be locally bound, whereas the POV of the presumptive evidential

marker *nhten* is anaphoric in the sense that it must co-index with an antecedent which c-commands it. This further confirms our view that *nhten* does not have independent feature values for reference.

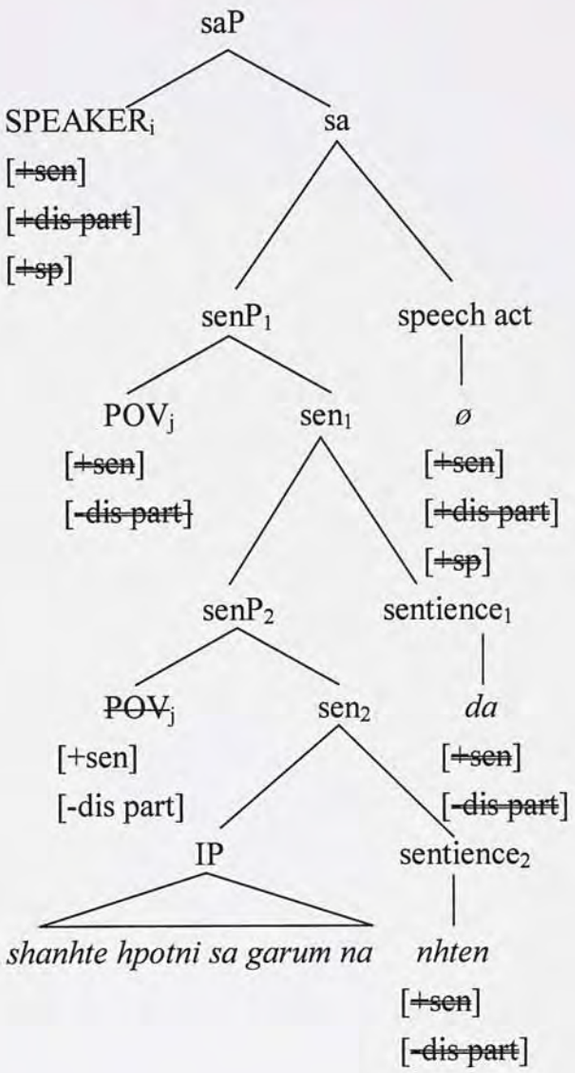
5.2.4 Accounting for the ordering constraints

As noted, the senP is recursive. At most two evidential markers *da* and *nhten* can be stacked together. When this happens, only one ordering is possible; that is, *da* must appear to the right of *nhten*. This ordering constraint can be easily accounted for in our analysis. The tree diagrams in (6) are structural representations of the examples in (5a) and (5b) respectively.

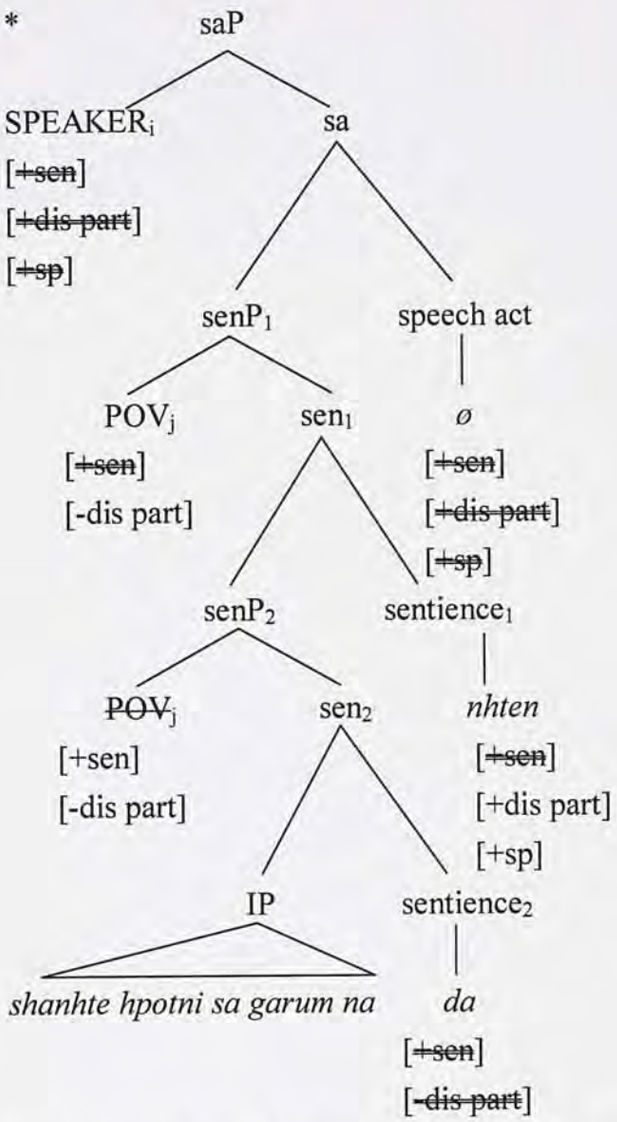
(5) a. *Shanhte* *hpotni* *sa* *garum* *na*
ʃan$_{55}$t^{h}e$_{33}$ p^{h}ot$_{55}$ni$_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ na$_{33}$
3PL tomorrow come/go help FUT
nhten *da.*
n$_{55}$t^{h}en$_{55}$ ta$^{?}_{31}$
EVD.PRS EVD.QOT
'People say it is possible that tomorrow they will come/go to help.'

b. **Shanhte* *hpotni* *sa* *garum* *na*
ʃan$_{55}$t^{h}e$_{33}$ p^{h}ot$_{55}$ni$_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ na$_{33}$
3PL tomorrow come/go help FUT
da *nhten.*
ta$^{?}_{31}$ n$_{55}$t^{h}en$_{55}$
EVD.QOT EVD.PRS
'It is possible that people say that tomorrow they will come/go to help.'

(6) a.


saP
SPEAKER$_i$
[~~+sen~~]
[~~+dis part~~]
[~~+sp~~]
sa
senP$_1$
speech act
POV$_j$
[~~+sen~~]
[~~-dis part~~]
sen$_1$
ø
[~~+sen~~]
[~~+dis part~~]
[~~+sp~~]
senP$_2$
sentience$_1$
~~POV~~$_j$
[+sen]
[-dis part]
sen$_2$
da
[~~+sen~~]
[~~-dis part~~]
IP
sentience$_2$
shanhte hpotni sa garum na
nhten
[~~+sen~~]
[~~-dis part~~]

b. *



Now let us start with the derivation of the correct ordering in (6a), proceeding bottom up. Since the Sentience head *nhten* has no default feature value, it inherits the values from its nearest c-commanding head *da*, the other Sentience head in the structure (given the recursive nature of the senP). Hence both heads bear the feature value [+sen] and [-dis part]. Recall that the [±sen] feature should be checked in the specifier position of senP and that the referential items marked [+sen] must undergo movement to the [Spec, senP] position in order to check this feature. The POV in the [Spec, senP$_2$] position checks the features of *nhten* first and since it still bears the

[+sen] feature,[78] it must move to the [Spec, $senP_1$] position to check off the corresponding feature of *da*.

Next consider the derivation (6b). The POV in the [Spec, $senP_2$] position agrees with the lower Sentience head *da* first and since its feature [+sen] is still active it must move to the [Spec, $senP_1$] position. However, the features [+sen] and [-dis part] of the POV do not agree with those in the feature set of the higher Sentience head *nhten* whose feature values are now inherited from the Speech Act head (i.e. [+sen], [+dis part], [+sp]). The derivation hence fails. To put it in simple terms, the intended derivation would allow a sentence with more than one point of view, and our analysis provides an answer why this is impossible. This can be taken as a natural consequence of the Full Interpretation Principle (see Section 2.2.3).

The data from Jingpo demonstrate how the theory about the grammar of information structure approached here derives the interaction of the two kinds of evidentiality, namely, the quotative evidentiality and the presumptive one. The discussion so far also shows that the senP allows recursion and thus the two evidential markers *da* and *nhten* can co-occur in a fixed order. Note, however, that not all the logical combinations of these two types of evidentiality are possible. The co-occurrence is not only restricted to one rigid order, but also restricted to the number of senPs that can be stacked together. In particular, no more than two senPs are allowed in the system, as evidenced in the impossible patterns in (7) below.

(7) a.*[$_{senP1}$ [$_{senP2}$ [$_{IP}$ *shanhte hpotni sa garum na*] <u>*da*</u>] <u>*da*</u>]
3PL tomorrow come/go help AUX.FUT
b.*[$_{senP1}$ [$_{senP2}$ [$_{IP}$ *shanhte hpotni sa garum na*] <u>*nhten*</u>] <u>*nhten*</u>]
c.*[$_{senP1}$ [$_{senP2}$ [$_{senP3}$ [$_{IP}$ *shanhte hpotni sa garum na*] <u>*da*</u>] <u>*nhten*</u>] <u>*da*</u>]
d.*[$_{senP1}$ [$_{senP2}$ [$_{senP3}$ [$_{IP}$ *shanhte hpotni sa garum na*] <u>*nhten*</u>] <u>*da*</u>] <u>*nhten*</u>]

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[78] Following Pesetsky and Torrego (2001), the uninterpretable feature [+sen] can be marked for deletion but it still remains alive before the derivation reaches the phase edge.

The purported sentences (7c) and (7d) can be easily rejected as they both involve a situation where the presumptive evidential marker *nhten* occurs to the right side of the quotative evidential marker *da*. This would give rise to more than one point of view as noted earlier. The first two sentences (7a) and (7b), on the other hand, each involves the same point of view. What rules out the meaningless recursion like this, therefore, is some kind of constraint like (8), which can be seen as a consequence of the Economy Principle (see Section 2.2.3).

(8) Constraint on sentience recursion
No vacuous viewpoint shifting is allowed.

By reducing the ordering constraint to morphological features associated with different functional projections, there is no need for any special rule to explain the co-occurrence restriction of the two evidential markers in Jingpo. This suggests that it is possible to provide a theoretical account in support of Cinque's (1999) hierarchy.

5.3 The consequences of the feature checking analysis

It should be noted that the feature checking analysis is not construction-particular; rather, it can help explain various intriguing phenomena in Jingpo to be discussed in the following subsections, including the agreement with pragmatic roles, the agreement shifting property across clause types, and the person constraint on sentence subjects.

5.3.1 Agreement with pragmatic roles

The first case is the speaker- or hearer-oriented agreement. In Jingpo, the agreement relation is unnecessarily established between SFPs and thematic roles (see Section 4.3.2). Agreement with pragmatic roles, i.e. speaker, hearer etc, can also be morphologically marked in SFPs, as illustrated below.

(9) a. *Jongma* *du* *hkum* ***saga ai.***
tʃoŋ$_{31}$ma$_{31}$ tu$_{31}$ k^{h}um$_{33}$ sǎ$_{55}$ka$^{?}$$_{55}ai_{33}$
student arrive complete SFP|COS-1PL[SUBJ]-DECL
'(My) students have all arrived.' (Dai 2008:429)

b. *Hkying* *gade* *htu* ***sata.***
k^{h}jiŋ$_{33}$ kǎ$_{31}$te$_{31}$ t^{h}u$_{55}$ sǎ$_{55}$ta$_{51}$
time how much point SFP|2SG[SUBJ]:COS-Q
'What time is it?' (Dai 2008:431)

The SFP *saga ai* in (9a) introduces a declarative sentence in which the third person plural noun[79] *jongma* 'student' is the sentence subject. The person feature of *saga ai*, however, as indicated in the gloss, does not agree with the person feature of *jongma*; rather, it agrees with the pragmatic role SPEAKER, understood as the teacher or someone else closely in relation to the students. The SFP *sata* in (9b), on the other hand, introduces an interrogative sentence where the third person singular noun *hkying* 'time' functions as the sentence subject. The person feature of *sata*, instead of agreeing with *hkying*, chooses the pragmatic role HEARER as the target of agreement.

Evidently agreement in Jingpo can be established between SFPs and pragmatic roles. Note that this does not mean the agreement with the real sentence subject is impossible. The sentence in (10) below is also acceptable, but the pragmatic indication of (9a) is completely lost in (10).

(10) *Jongma* *du* *hkum* ***masai.***
tʃoŋ$_{31}$ma$_{31}$ tu$_{31}$ k^{h}um$_{33}$ mǎ$_{33}$sai$_{33}$
student arrive complete SFP|3PL[SUBJ]:COS-DECL
'The students have all arrived.' (Dai 2008:429)

Although the above sentence has the same meaning as (9a), both depicting a scenario when all the students arrived, pragmatically they do not deliver the same

[79] Recall that the plurality of a common noun is not obligatorily marked in Jingpo. The plural reading, however, can be deduced from the use of the postverbal expression *hkum*, which is semantically incompatible with a single participant.

amount of information to the audience. While the former can be said by anyone, the speaker of the latter is only limited to the teacher of those students or someone else closely in relation to the students. The differences between (9a) and (10) can be seen more clearly in the following contrast.

(11) a. * *Jongma* *du* *hkum* ***saga ai***
tʃoŋ$_{31}$ma$_{31}$ tu$_{31}$ k^{h}um$_{33}$ sǎ$_{55}$ka$^{ʔ}_{55}$ai$_{33}$
student arrive complete SFP|COS-1PL[SUBJ]-DECL
da/nthen.
ta$^{ʔ}_{31}$/ n$_{55}$t^{h}en$_{55}$
EVD.QOT/EVD.PRS
(Int.) 'People say all of my students have arrived.'/
(Int.) 'It is possible that all of my students have arrived.'

b. *Jongma* *du* *hkum* ***masai***
tʃoŋ$_{31}$ma$_{31}$ tu$_{31}$ k^{h}um$_{33}$ mă$_{33}$sai$_{33}$
student arrive complete SFP|3PL[SUBJ]:COS-DECL
da/nhten.
ta$^{ʔ}_{31}$/ n$_{55}$t^{h}en$_{55}$
EVD.QOT/EVD.PRS
'People say all the students have arrived.'/
'It is possible that all the students have arrived.'

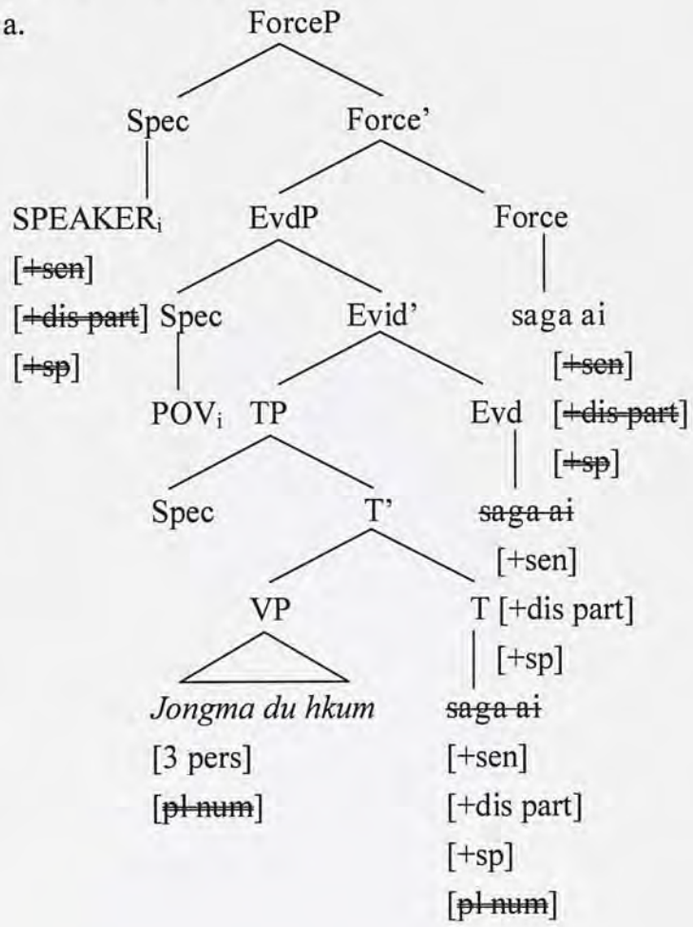
(12) a. **Jongma* *du* *hkum* ***saga ai*** *i?*
tʃoŋ$_{31}$ma$_{31}$ tu$_{31}$ k^{h}um$_{33}$ sǎ$_{55}$ka$^{ʔ}_{55}$ai$_{33}$ i$_{51}$
student arrive complete SFP|COS-1PL[SUBJ]-DECL Q
(Int.) 'Have all of my students arrived?'

b. *Jongma* *du* *hkum* ***masai*** *i*
tʃoŋ$_{31}$ma$_{31}$ tu$_{31}$ k^{h}um$_{33}$ mă$_{33}$sai$_{33}$ i$_{51}$
student arrive complete SFP|3PL[SUBJ]:COS-DECL Q
'Have all the students arrived?'

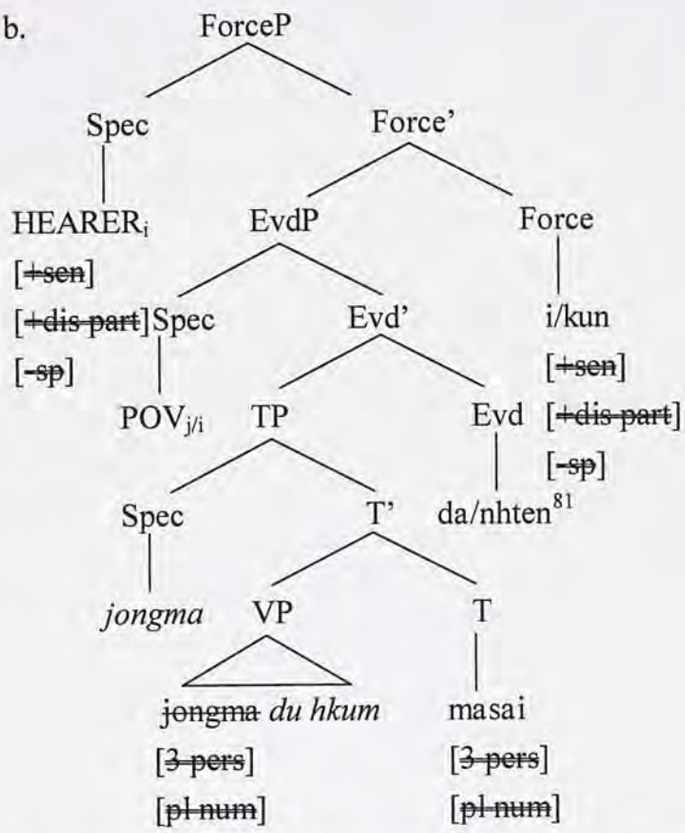
The contrast manifests that only the SFP that agrees with the sentence subject, i.e. the thematic role of the verb *du* 'arrive', rather than the pragmatic role SPEAKER, is compatible with the evidential markers (11) and the interrogative markers (12). When the SFP agrees with SPEAKER, the pragmatic role, no evidential marker or interrogative marker can appear at the end of that sentence.

Applying the syntactic structure of the Jingpo right periphery demonstrated in the last chapter to the data in (11) and (12), their ungrammaticality can be easily accounted for, as illustrated below.[80]

(13) a.



[80] For easy exposition I intentionally omit the FinP layer where both *saga ai* in (13a) and *masai* in (13b) should move into. See Section 4.4 for an overall structural representation of an articulated CP in Jingpo.



Both *saga ai* and *masai* originate in positions lower than the C-domain. Since *saga ai* agrees with the pragmatic role SPEAKER (as in (13a)), it must have moved to the Speech Act head crossing the Sentience head, whereas *masai* agrees with the sentence subject and checks all its features in-situ (13b), thus it does not move any further. The presence of the evidential marker *da* or *nhten* in (11), or that of the interrogative particle *i* in (12), blocks the head movement of *saga ai*. Hence the sentences are bad because the pragmatic roles in the C-domain are too distant for relevant features to check with. By applying the feature checking analysis to the speaker- or hearer-oriented agreement, the pragmatic function of the agreement is thereby given a syntactic basis.

Note that (13a) involves quirky agreement where only partial (number but not person) agreement [82] obtains below the C-system. The quirky facts across

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[81] The feature checking of the evidential head with its specifier has been omitted here for the ease of illustration.

[82] Refer to Section 4.3.2.2 for another instance of quirky agreement in Jingpo.

languages[83] have given rise to an explosion of possible analyses which I do not attempt to review here. Suffice it to say that two main approaches can be envisaged within the Minimalist framework: one is to regard Person and Number as separate Probes (see Sigurðsson and Holmberg 2008 for an approach along this line), and the other is to adopt Chomsky's (1995a) Attract F Hypothesis that movement must be understood as attraction of formal features and further stipulate that certain features can raise to check agreement without triggering pied-piping (see Boeckx 2000 for details).

Another relevant question is how to satisfy EPP if the SFP is not in a total agreement relation with the sentence subject. Here I adopt Endo's (2007) refinement (illustrated in the following table) of Alexiadou and Anagnostopoulou's (1998) proposal that languages may differ with respect to how the EPP is satisfied.

(14) The parameterization pattern of EPP checking (Endo 2007:170)

	Japanese	Modern English	Icelandic	Spanish, Greek
discourse-related XP	yes	no	yes	no
DP	yes	yes	yes	yes
discourse-related head	yes	no	no	no
non-discourse-related head	no	no	no	yes

Endo suggests that in a discourse-prominent language like Japanese the EPP may be satisfied by a non-thematic XP (i.e. discourse-related XP), a thematic XP (typically the subject DP) or a discourse-related head which he argues to be realized as SFPs in Japanese. Given that Jingpo is a language that is in the middle of a radical morphological change and that exhibits a mixed property between a discourse-prominent language and a non-discourse-prominent language, evidenced by the fact that it allows both radical *pro* drop and agreement-based *pro* drop (see Section 3.2.3), I assume it permits an even more diversified means of satisfying the EPP than Japanese does. In particular, Jingpo can satisfy the EPP by an XP (either discourse-

[83] See Boeckx (2000) for an overview of the quirky agreement in Icelandic.

related or not), or an X^0 element (either discourse-related or not). Recall that the grammatical function of ForceP, the highest functional projection of the CP domain is to connect its internal structure with a higher structure or discourse (Rizzi 1997). Hence "discourse-relatedness" here is structurally defined as materials that are merged or moved into the edge of the C-system. Hence the SFP *masai* in (13b) is not discourse-related and the EPP is satisfied by the A-movement of the DP *jongma* 'student' to the specifier position of TP. On the other hand, the SFP *saga ai* in (13a), since it is moved to the [Spec, ForceP] position, can satisfy the EPP on its own.

5.3.2 The shifting of agreement relations across clause types

The feature checking analysis can also be extended to the agreement-shifting property of the consultative mood. Gu (2004b) notices that there is a change in the agreement relation when an SFP of an imperative clause is followed by the consultative mood morpheme *ga* (in the sense of Dai and Xu 1992), as illustrated below.

(15) a. *Ningnu* *hpe* *lau* *sa* *hpai*
ninŋ$_{55}$nu$_{51}$ p^{h}e$^{?}_{55}$ lau$_{33}$ sa$_{33}$ p^{h}ai$_{33}$
your mother OM quickly come/go carry
garum ***u!***
kă$_{31}$ʒum$_{33}$ u$^{?}_{31}$
help SFP|2SG[SUBJ]:IMP
'Come/go and help your mother quickly.' (Gu 2004b:21)

b. *Ningnu* *hpe* *lau* *sa* *hpai*
ninŋ$_{55}$nu$_{51}$ p^{h}e$^{?}_{55}$ lau$_{33}$ sa$_{33}$ p^{h}ai$_{33}$
your mother OM quickly come/go carry
garum ***u ga!***
kă$_{31}$ʒum$_{33}$ u$^{?}_{31}$ka$^{?}_{31}$
help SFP|3SG[SUBJ]:3[OBJ]-CONS
'Let somebody come/go and help your mother quickly.'
(Gu 2004b:21)

As discussed in the last chapter, the above two sentences are traditionally analyzed as having different clause types; however, there are three major drawbacks of such treatment. Crosslinguistically, as noted by Speas and Tenny (2003:319), "the types of speech acts grammaticized in natural languages are surprisingly constrained", and "no language has a special marker for promises, declarations, warnings, forgivings, etc.". According to them, there are only four types of speech acts, namely declaratives, interrogatives, imperatives, and subjunctives. Postulating one more speech act, i.e. consultatives, will be an *ad hoc* solution.

Conceptually speaking, imperatives and consultatives are very similar to each other in the sense that they both exhort certain kind of requirements to the hearer, with the only difference lying in the recipient of these requirements. Just as the imperatives are requirements of getting the addressee to perform a certain action, the consultatives are requirements of getting the addressee's permission for anybody else rather than the addressee to perform a certain action.

Morphologically speaking, treating imperatives and consultatives as separate speech acts will cost a whole new paradigm of SFPs. Dai and Xu (1992) treated the morpheme *ga* as the marker of the consultative mood whereas the prefinal part, in DeLancey's (2008) term, marks other grammatical functions such as agreement and emphatic mood (i.e. the degree of politeness). This leads to an odd situation where the same morphological form of the prefinal part marks completely different agreement relations, as shown in the following table.

(16) Comparison between imperatives and consultatives

Mood	Subject	Object	[-emphatic]		[+emphatic]	
			[-plural]	[+plural]	[-plural]	[+plural]
imperative	2	---	*u*	*mu*	*nu*	*manu*
consultative	3	3	*u ga*	*mu ga*	*nu ga*	*manu ga*

As can be seen from (16), with every other grammatical function remaining the same, the addition of *ga* causes a complete change of the agreement relation. If the changes are ascribed as changes in grammatical functions, such treatment will cause a huge burden for language acquisition as children have to memorize hundreds of SFPs one by one. However, this can hardly be the case, especially when we take a bigger picture into consideration. Consider the following comparison.

(17) Comparison among declaratives, interrogatives, conjectures and exclamatives[84]

Mood	Subject	Object	[+change of state]		[-change of state]	
			[-plural]	[+plural]	[-plural]	[+plural]
declarative	3	3	*u ai*	*mu ai*	*nu ai*	*manu ai*
interrogative	3	3	*u ni*	*mu ni*	*nu ni*	*manu ni*
conjecture	3	3	*u dong*	*mu dong*	*nu dong*	*manu dong*
exclamative	3	3	*u hka*	*mu hka*	*nu hka*	*manu hka*

As shown in (17), clearly the prefinal part of each SFP marks exactly the same kind of agreement relation.

In the last chapter it has been demonstrated that the consultative mood is not a separate speech act; rather it falls into the same type as imperatives. There is in fact no change in agreement relation. The addition of the morpheme *ga* does not change the agreement features of the SFPs in (15b). Instead, it shifts the deictic meaning of the participants in the sentences. The current analysis allows this deictic shifting to be structurally represented by the co-indexation of pragmatic roles and thematic roles. While the sentence subject in imperative clauses must be co-indexed with the nearest c-commanding pragmatic role HEARER, the same co-indexation cannot be established in other clause types. Hence in (15a) the person who performs

[84] Note that the feature matrix [±emphatic] and [±change of state] in (16) and (17) are in complementary distribution in the sense that the former is restricted to imperative, consultative and promissive clauses whereas the latter is applicable to all the other four clause types. They are most likely to be subsumed into one single feature (see Section 4.3.4).

the action is the hearer, whereas in (15b) it is a non-grammatical person who performs the action.

5.3.3 Person constraint on subjects

It is plausible to extend the same line of reasoning to the person feature effect illustrated in (18) below.

(18) a. *Anhte/*nanhte/*shanhte* *shat* *sha* *sana.*
an$_{55}$t^{h}e$_{33}$/nan$_{55}$t^{h}e$_{33}$/ʃan$_{55}$t^{h}e$_{33}$ ʃat$_{31}$ ʃa$_{55}$ sə̆$_{33}$na$_{33}$
1PL/2PL/3PL meal eat want
(Int.) 'We/you(pl)/they want to have meal.' (Dai and Xu 1992:160)

b. *Anhte/nanhte/shanhte* *shat* *sha* *sana* *da.*
an$_{55}$t^{h}e$_{33}$/nan$_{55}$t^{h}e$_{33}$/ʃan$_{55}$t^{h}e$_{33}$ ʃat$_{31}$ ʃa$_{55}$ sə̆$_{33}$na$_{33}$ ta$^{?}_{31}$
1PL/2PL/3PL meal eat want EVD.QOT
'People say we/you(pl)/they want to have meal.'
(Dai and Xu 1992:160)

c. **Anhte/nanhte/*shanhte* *sha* *shat* *sana* *i?*
an$_{55}$t^{h}e$_{33}$/nan$_{55}$t^{h}e$_{33}$/ʃan$_{55}$t^{h}e$_{33}$ ʃat$_{31}$ ʃa$_{55}$ sə̆$_{33}$na$_{33}$ i$_{51}$
1PL/2PL/3PL meal eat want Q
'Do we/you(pl)/they want to have meal?'

In Jingpo there is a person constraint on sentences containing *sana* 'want' (Dai and Xu 1992), whereby only the first person can be the subject, as (18a) illustrates. But (18b) and (18c) exhibit different patterns.

Given the Uniformity Principle, the full inventory of functional heads is universal. It naturally follows that there are a covert Sentience head and a covert Speech Act head in (18a). They both bear the feature set [+sen], [+dis part] and [+sp], and require a co-indexing relation between the pragmatic roles in their specifier positions and the thematic roles in the subject positions, respectively. These features naturally rule out the non-first person subjects; the second person subject does not match the Sentience head on the feature [+sp], and the third person subject does not match the Speech Act head on the feature [-dis part]. This explains (18a).

It has also been observed that this person constraint can be lifted when the evidential marker *da* is merged to the clause edge as in (18b) (Dai and Xu 1992). Under the present analysis, this is because the merger of *da* lifts the co-indexation requirement. The specifier of *da* must not be occupied by a referring expression that co-indexes with the sentence subject. This explains why (18b) is acceptable; none of the sentence subject is in the specifier of the phrase headed by *da*. There is another strategy of lifting the person constraint, i.e. to make use of the interrogative marker *i*. The current analysis shows that *i* has the feature set [+sen], [+dis part] and [-sp], so it can only agree with the second person as in (18c).

To summarize so far, we have applied a feature checking analysis to the Jingpo data to explain the fixed ordering between the two evidential markers in the hope that it could serve as a starting point of accounting for Cinque's (1999) hierarchy within the current theoretical framework. In addition, it has been demonstrated that the same analysis can be extended to three long-held puzzles in Jingpo. This shows that the feature checking approach is not limited to any specific construction or phenomenon. Finally, all those attempts show that the cartographic approach works very well with the Jingpo data.

5.4 Concluding remarks

In this chapter I have discussed how different clause edge particles discussed in Chapter 4 manifest the Jingpo functional heads in the CP-domain, and proposed a feature checking analysis to account for various phenomena in Jingpo, including the ordering constraint between different evidential markers, the speaker- or hearer-oriented agreement marking, the agreement-shifting property of the imperative mood, and the constraint of the person feature marking on subjects. I have demonstrated how these seemingly unrelated aspects of Jingpo grammar can be

reduced to morphosyntactic features associated with different projections and be captured under a unified feature checking account. In particular, I have showed why no specific treatment for particular constructions is needed to account for the correlation between pragmatic roles and the clause edge particles at the right periphery in the language.

In next chapter I summarize the discussion of the articulated CP structure in Jingpo and attempt the same analysis in its nominal domain. I demonstrate that in the same ways as Cinque's (1999) proposal that functional heads and adverbials can be structurally associated, the prenominal and postnominal adjectives can be captured in a spec-head configuration as well. I also show that the multiple occurrences of demonstratives call for two separate functional projections to accommodate D-type and A-type demonstratives. Finally I split DP into two subprojections DP_{INT} and DP_{EXT}. The D-type demonstratives, as well as the singular indefinite marker *mi* and the plural definite marker *ni/-hte* head DP_{INT} and check the [±definite] feature. The object marker *hpe* is the lexical manifestation of D_{EXT} and checks the [±specific] feature.

Chapter 6 Jingpo from the Cartographic Perspective

6.1 Introduction

In Chapter 2 I have introduced the theoretical tools that I adopt throughout the thesis. In particular, I have discussed two main guiding ideas, namely, (i) the maximal projection of a lexical category can be embedded within a (covert) functional structure, and (ii) syntactic projections of the feature system can be split into more elementary subprojections, each being dedicated to a particular grammatical function. Thus a clause is analyzed as an extended projection of VP, and this extended projection, traditionally named CP, is decomposed into ForceP, TopP, FocP and FinP, appearing in the following pattern:

(1) Force...Top...Foc...Top...Fin...(IP) (Rizzi 2004:237)

This pattern shows that the two projections ForceP and FinP delimit the CP zone and sandwich two other projections TopP and FocP, with their specifier positions being the landing site of discourse-related materials such as topic and focus. As the highest layer of the C-system, ForceP connects its complement to a higher structure or discourse; on the other hand, FinP, the lowest functional projection of the C-domain, anchors the event, depicted by its complement IP, in time.

Following Chomsky's (2001) Uniformity Principle, quoted in (2) below, a highly articulated clause structure like (1) and the full inventory of functional categories such as Force, Top, Foc, Fin, etc., are assumed to be universal.

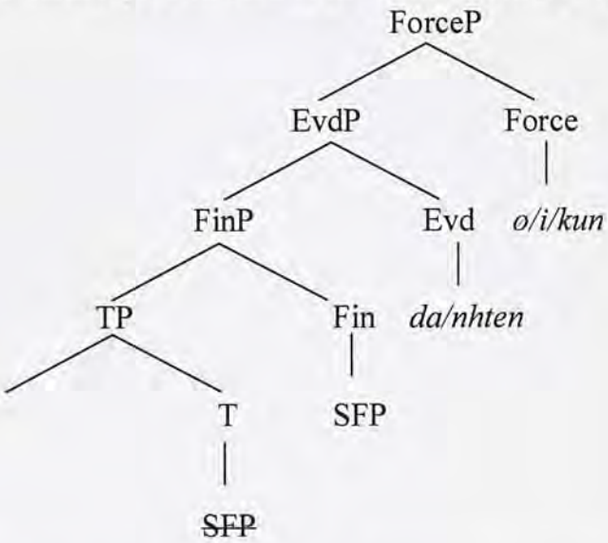
(2) Uniformity Principle (Chomsky 2001:2)
In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances.

Languages, while abiding by this principle, may differ from one another "in the movements they admit and in the projections they overtly realize" (Cinque 2006:4).

In Chapter 3 I have introduced some of the basic properties of Jingpo that are relevant to the ensuing discussion. To recapitulate, Jingpo has the following properties: (i) the basic word order is SOV, and the head always comes last, (ii) it shares morphological properties among analytic, agglutinating and inflectional languages, and (iii) it is changing from an agreement-based *pro* drop language to a radical *pro* drop language.

In Chapters 4 I have presented an articulated structure for the right periphery of Jingpo clauses, as diagrammed below.

(3) The structural representation of the right periphery in Jingpo clauses



As shown in the above tree diagram, the interrogative marker *i/kun*, the evidential marker *da/nhten*, and the SFPs are lexical manifestations of the functional heads Force, Evd, and T, respectively. In addition, the SFPs must move from T to Fin to check the [±finite] feature.

In Chapter 5 I have demonstrated that many puzzling facts in Jingpo clausal domain are reducible to the interaction of feature checking at ForceP and EvdP, including the ordering constraint between different evidential markers, the speaker- or hearer-oriented agreement marking, the agreement-shifting property of the imperative mood, and the constraint of the person feature marking on subjects. This

further corroborates a cartographic account for Jingpo clause periphery.

In this chapter I attempt the cartographic approach to Jingpo DPs. First I show that in the same fashion as Cinque (1999) associating the auxiliaries and the sentential adverbials together the prenominal and postnominal adjectives in Jingpo can be cast in terms of spec-head configuration. Then I argue for an articulated structure for Jingpo noun phrases on the basis of the multiple occurrences of demonstratives. I postulate two functional projections to accommodate the D-type and A-type demonstratives. Finally I split DP into two subprojections DP_{INT} and DP_{EXT}. The D-type demonstratives, as well as the singular indefinite marker *mi* and the plural definite marker *ni/-hte* head DP_{INT} and check the [±definite] feature. The object marker *hpe* is the lexical manifestation of D_{EXT} and checks the [±specific] feature.

6.2 Functional heads and their specifiers

After independently establishing a universal hierarchy of AdvPs (4) and a universal hierarchy of functional heads (5) based on word order facts, Cinque (1999) spots a striking similarity between the two, thereby proposing that the two be better subsumed into one hierarchy, cited in Chapter 2 and repeated in (6) below, and that an adverb occupy the specifier position of a particular functional category which covers the same semantic domain.

(4) A universal hierarchy of AdvPs: a case in English (Cinque 1999:34)
frankly > fortunately > allegedly > probably > once/then > perhaps > wisely > usually > already > no longer > always > completely > well

(5) A universal hierarchy of functional heads (Cinque 1999:96)
$Mood_{speech\ act}$ > $Mood_{evaluative}$ > $Mood_{evidential}$ > $Mod_{epistemic}$ > T(Past) > T(Future) > $Mood_{irrealis}$ > $Asp_{habitual}$ > T(Anterior) > $Asp_{perfect}$ > $Asp_{retrospective}$ > $Asp_{durative}$ > $Asp_{progressive}$ > $Asp_{prospective}$ / Mod_{root} > Voice > $Asp_{celerative}$ > $Asp_{completive}$ > $Asp_{(semel)repetitive}$ > $Asp_{iterative}$

(6) The Universal hierarchy of clausal functional projections (Cinque 1999:106)
[*frankly* $Mod_{speech\ act}$ [*fortunately* $Mod_{evaluative}$ [*allegedly* $Mod_{evidential}$ [*probably* $Mod_{epistemic}$ [*once* T(Past) [*then* T(Future) [*perhaps* $Mod_{irrealis}$ [*necessarily* $Mod_{necessity}$ [*possibly* $Mod_{possibility}$ [*usually* $Asp_{habitual}$ [*again* $Asp_{repetitive(I)}$ [*often* $Asp_{frequentative(I)}$ [*intentionally* $Mod_{volitional}$ [*quickly* $Asp_{celerative(I)}$ [*already* T(Anterior) [*no longer* $Asp_{terminative}$ [*still* $Asp_{continuative}$ [*always* $Asp_{perfect}$( ) [*just* $Asp_{retrospective}$ [*soon* $Asp_{proximative}$ [*briefly* $Asp_{durative}$ [*characteristically( )* $Asp_{generic/progressive}$ [*almost* $Asp_{prospective}$ [*completely* $Asp_{Completive(I)}$ [*tutto* $Asp_{PlCompletive}$ [*well* Voice [*fast/early* $Asp_{celerative(II)}$ [*again* $Asp_{repetitive(II)}$ [*often* $Asp_{frequentative(II)}$ [*completely* $Asp_{SgCompletive(II)}$]]]

(7) a. *Hkrep* *rai* *tsap* *nga* *ma ai.*
k^hʒep$_{31}$ ʒai$_{31}$ ts<u>a</u>p$_{55}$ ŋa$_{31}$ ma$^{?}_{31}$ai$_{33}$
abreast LV stand ASP.IMPF SFP|3PL[SUBJ]-DECL
'They are standing abreast.'

b. *Tsap* *ahkrep* *nga* *ma ai.*
ts<u>a</u>p$_{55}$ a$_{31}$$k^h$ʒep$_{31}$ ŋa$_{31}$ ma$^{?}_{31}$ai$_{33}$
stand AUX ASP.IMPF SFP|3PL[SUBJ]-DECL
'They are standing abreast.' (Dai 1998:338)

When prefixed with *a-*, *hkrep* in the adverb *hkrep rai* (7a) becomes an auxiliary *ahkrep* as in (7b). The resulting auxiliary *ahkrep*, however, though contributing the same amount of information to the verb as *hkrep rai* does, does not occupy the same position as *hkrep rai*. Dai (1998) compares the two types of auxiliaries and reports that unlike the grammaticalization from lexical verbs that forms a closed class of auxiliaries, the second type of auxiliaries come from an open class of adverbs. Therefore, there must be a certain structural means for analysis which can help capture the close semantic and morphological relation between the adverbs and the auxiliaries of this type.

Given that Jingpo is a strict head-final language, it is clear that the auxiliary *ahkrep* on the right side of the main verb *tsap* occupies a head position. The manner adverb *hkrep rai*, on the other hand, is an XP and occupies an A'-position, as evidenced by the following facts.

(8) a. *Hkrep* *rai* *mahkrai* *ko* *tsap* *nga*
k^hʒep$_{31}$ ʒai$_{31}$ mă$_{31}$$k^h$ʒai$_{33}$ k<u>o</u>$^{?}_{55}$ ts<u>a</u>p$_{55}$ ŋa$_{31}$
abreast LV bridge on stand ASP.IMPF
ma ai.
ma$^{?}_{31}$ai$_{33}$
SFP|3PL[SUBJ]-DECL
'They are standing abreast on the bridge.'

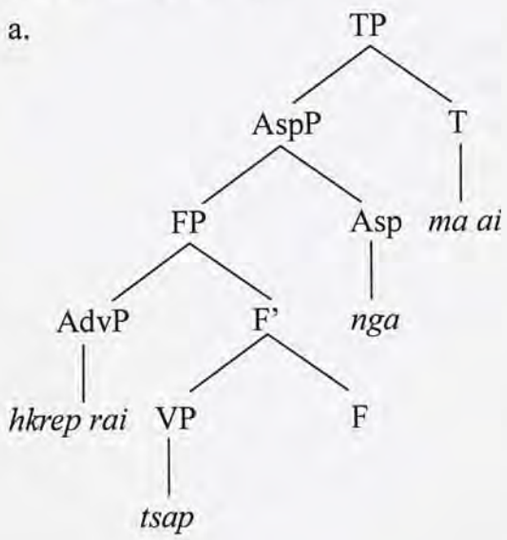
b. *Shanhte* *hkrep* *rai* *tsap* *nga*
ʃan$_{55}$$t^he_{33}$ k^hʒep$_{31}$ ʒai$_{31}$ ts<u>a</u>p$_{55}$ ŋa$_{31}$
3PL abreast LV stand ASP.IMPF

ma ai.
$ma^{?}{}_{31}ai_{33}$
SFP|3PL[SUBJ]-DECL
'They are standing abreast.'

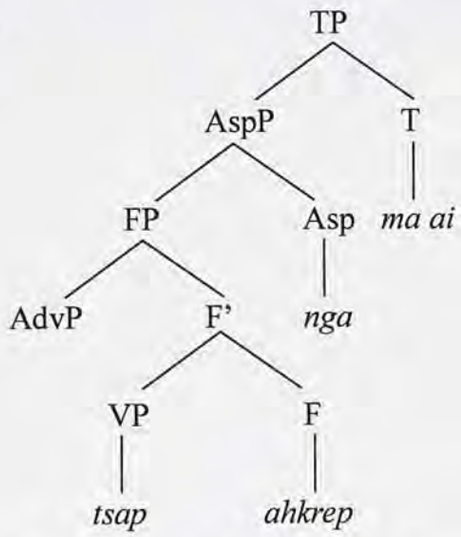
In (8a), the adverb *hkrep rai* and the main verb *tsap* 'stand' are intervened by a PP *mahkrai ko* 'on the bridge', indicating that *hkrep rai* is not a head. In (8b), the adverb occurs between the overt subject *shanhte* and the main verb *tsap*, i.e. the canonical adverb position in Jingpo, indicating that it is in an A'-position as it does not block the A-movement of the subject from [Spec, VP] to [Spec, TP].

It is impossible to postulate a movement-based analysis to capture the close relation between *ahkrep* and *hkrep rai* as there is no way for a phrasal category to move to a head position or for an X^0 category to move to an XP position. Cinque's (1999) hypothesis that an adverb is licensed by a specific functional head by occupying the specifier position of that head provides us a feasible solution. Following his analysis, the sentence pair (7a) and (7b) can be sketchily represented as in (9a) and (9b), respectively.

(9) a.



b.



Assuming that the auxiliary *ahkrep* heads a functional projection FP, its adverbial counterpart *hkrep rai* is thus merged to the only A'-position available within that FP, thereby forming a spec-head licensing relation with *ahkrep*. The two elements occurring on different sides of the main verb (i.e. the phrasal category *hkrep rai* on the left side as (9a) and the head category *ahkrep* on the right side as (9b)) yet contributing the same meaning to it can thus be easily accounted for.

Giusti (2005) assumes an Economy Principle such as (10) and a parameter (11) that constrains the Economy Principle.

(10) Economy Principle (Giusti 2005:37)
Economize functional heads.

(11) A functional projection must be visible at all levels of representation by either (Giusti 2005:37)
a. making the specifier visible, and/or (according to parametric choice)
b. making the head visible

The principle in (10) makes the merging of a functional head a last resort procedure whereas the parameter in (11) requires that in order for a functional head to be phonologically realized the head and/or the specifier must be merged to the projection. Since heads and modifiers appear in complementary distribution in Jingpo, the parameter (11) is specified disjointly, as 'merging either a specifier or a functional head to a functional projection' in the language.

It should be noted that following Dai (1998) and Cinque (1999) I take "auxiliary" as a cover term of the assorted class of postverbal particles, including modal verbs, aspect markers, and some other functional categories. They exhibit different semantic properties which may in turn determine their syntactic distributions. For instance, the first type of auxiliaries, i.e. those grammaticalized from lexical verbs always occur after the second type of auxiliaries, i.e. those that share the same roots with adverbs, as the meaning of the former is bleached whereas that of the latter is still maintained. Put simply, the former is more functional than the latter. A subtle analysis of the relative ordering of various auxiliaries in Jingpo is still necessary in order to achieve a more accurate mapping of adverbs and their licensing heads. Presently suffice it to say that Cinque's (1999) approach by far is the most plausible account for the different distribution of the elements with the same semantic meanings and morphological origins. In next section I extend the same analysis to Jingpo adjectives, the analogue of adverbs in the nominal domain, and ascribe the relatively flexible distribution of adjectives to the same spec-head configuration.

6.2.2 Prenominal and postnominal adjectives

Recall the discussion in Section 3.3.2.1 that nominal modifiers can occur at either side of the head noun, as illustrated below. The SFP *ai* is obligatory when the adjective occurs prenominally (12b) whereas it cannot be present when the adjective occurs postnominally (12a).

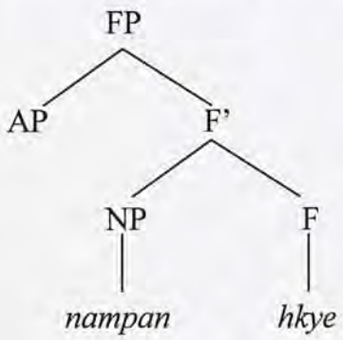
(12) a.	*nampan*	*hkye*	*(*ai)*
	$nam_{31}pan_{33}$	k^hje_{33}	ai_{33}
	flower	red	SFP|3SG[SUBJ]:DECL
	'red follower'		

b.	*hkye*	**(ai)*	*nampan*
	k^hje_{33}	ai_{33}	$nam_{31}pan_{33}$
	red	SFP|3SG[SUBJ]:DECL	flower
	'red flower'		

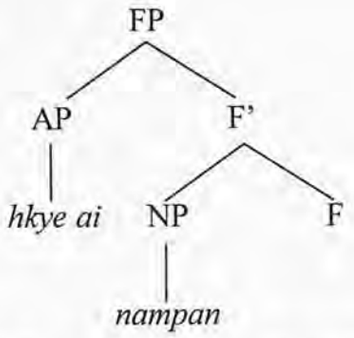
In Section 3.3.2.1 I have provided a series of evidence against a compounding analysis of the N-A sequence. Following Gu and Dai (2003), I argue that both the N-A sequence (12a) and the A-*ai*-N sequence (12b) are syntactic phrases.

The question that naturally follows is how to account for the semantic correspondence as well as the syntactic differences between prenominal and postnominal adjectives. Recall in last section I have analyzed the corresponding preverbal adverbs and postverbal auxiliaries as phrasal and head categories of the same projection. The same analysis can be readily extended to the modification in the nominal domain. Cinque (1994) takes attributive APs as specifiers of different functional projections in noun phrase structure, in the same fashion as his later analysis (Cinque 1999) whereby adverbials are treated as specifiers of different projections in the clausal domain. The N-A sequence *nampan hkye* and A-*ai*-N sequence *hkye ai nampan* can hence be analyzed as having different categorial status (i.e. the former is a head element (13a) whereas the latter is a phrasal category (13b)) and occupying different positions of the functional projection FP.

(13)a.



b.



It naturally follows from this analysis that the phrasal category *hkye ai* and the head category *hkye* cannot swap positions with each other (12) and that only the prenominal AP, not the head element *hkye* can be modified by adverb phrases, as illustrated below.

(14) a. *grai* *gaba* *ai* *hpun*
k͡ɔai$_{31}$ kă$_{31}$pa$_{31}$ ai$_{33}$ p^{h}un$_{55}$
very big SFP|3SG[SUBJ]:DECL tree
'very big tree' (Cheung 2006:40)

b. *hpun* *(*grai)* *gaba* *(*grai)*
p^{h}un$_{55}$ k͡ɔai$_{31}$ kă$_{31}$pa$_{31}$ k͡ɔai$_{31}$
tree very big very
'very big tree' (Cheung 2006:40)

Recall that multiple occurrences of different adjectival forms are always allowed prenominally, whereas at most one adjective can occur in the postnominal position.

(15) a. *gaba* **(ai)* *hkye* **(ai)* *dui* **(ai)* *myin* **(ai)* *namsi*
kă$_{31}$pa$_{31}$ ai$_{33}$ k^{h}je$_{33}$ ai$_{33}$ tui$_{31}$ ai$_{33}$ mjin$_{33}$ ai$_{33}$ nam$_{31}$si$_{31}$
big SFP red SFP sweet SFP ripe SFP fruit
'big red sweet ripe fruit(s)' (Cheung 2006:41)

b. **namsi* *gaba* *hkye* *dui* *myin*
nam$_{31}$si$_{31}$ kă$_{31}$pa$_{31}$ k^{h}je$_{33}$ tui$_{31}$ mjin$_{33}$
fruit big red sweet ripe
(Int.) 'big red sweet ripe fruit(s)'

c. **namsi* *myin* *dui* *hkye* *gaba*
nam$_{31}$si$_{31}$ mjin$_{33}$ tui$_{31}$ k^{h}je$_{33}$ kă$_{31}$pa$_{31}$
fruit ripe sweet red big
(Int.) 'ripe sweet red big fruit(s)' (Cheung 2006:41)

d. **namsi* *dui* *hkye* *gaba*
nam$_{31}$si$_{31}$ tui$_{31}$ k^{h}je$_{33}$ kă$_{31}$pa$_{31}$
fruit sweet red big
(Int.) 'sweet red big fruit(s)' (Cheung 2006:41)

e. **namsi* *hkye* *gaba*
nam$_{31}$si$_{31}$ k^{h}je$_{33}$ kă$_{31}$pa$_{31}$
fruit red big
(Int.) 'red big fruit(s)' (Cheung 2006:41)

f. *namsi* *gaba*
nam$_{31}$si$_{31}$ kă$_{31}$pa$_{31}$
fruit big
'big fruit(s)' (Cheung 2006:41)

Given the structural representations of the prenominal and postnominal adjectives in (13), the fact that the latter cannot be stacked (15b-f) can be accounted for if we assume the FP in Jingpo nominal domain is unique for independent reasons. In this case, the stacking of the prenominal APs forms one larger conjoined AP and occupies the specifier position of the unique FP. The stacking structure (16b) is just a result of *hte*-omission from the conjoined structure (16a).

(16) a. *hkye* **(ai)* *hte* *tsom* **(ai)* *nampan*
k^{h}je$_{33}$ ai$_{33}$ t^{h}e$^{?}_{31}$ ts̲om$_{31}$ ai$_{33}$ nam$_{31}$p̲an$_{33}$
red SFP and beautiful SFP flower
'red and beautiful flower(s)'

b. *hkye* **(ai)* *tsom* **(ai)* *nampan*
k^{h}je$_{33}$ ai$_{33}$ ts̲om$_{31}$ ai$_{33}$ nam$_{31}$p̲an$_{33}$
red SFP beautiful SFP flower
'red and beautiful flower(s)'

Given that the omission of the conjunction word *hte* is always allowed, as illustrated below, this is a feasible solution.

(17) *Wayi* *(hte)* *wala* *gawa* *nu ai.*
wa$^{?}_{31}$ji$_{31}$ t^{h}e$^{?}_{31}$ wa$^{?}_{31}$la$_{31}$ kă$_{31}$wa$_{55}$ nu$^{?}_{55}$ai$_{33}$
female pig and male pig bite SFP|3SG[SUBJ]:3[OBJ]:COS-DECL
'A female pig and a male pig have bit (someone else).'

This analysis correctly predicts that there is no fixed ordering among the prenominal APs, reported in Cheung (2006).

(18) a. *gaba *(ai) hkye *(ai) dui *(ai) myin *(ai) namsi*
kă$_{31}$pa$_{31}$ ai$_{33}$ k^{h}je$_{33}$ ai$_{33}$ tui$_{31}$ ai$_{33}$ mjin$_{33}$ ai$_{33}$ nam$_{31}$si$_{31}$
big SFP red SFP sweet SFP ripe SFP fruit
'big red sweet ripe fruit(s)' (Cheung 2006:42)

b. *myin *(ai) dui *(ai) hkye *(ai) gaba *(ai) namsi*
mjin$_{33}$ ai$_{33}$ tui$_{31}$ ai$_{33}$ k^{h}je$_{33}$ ai$_{33}$ kă$_{31}$pa$_{31}$ ai$_{33}$ nam$_{31}$si$_{31}$
ripe SFP sweet SFP red SFP big SFP fruit
'ripe sweet red big fruit(s)' (Cheung 2006:42)

c. *dui *(ai) hkye *(ai) gaba *(ai) myin *(ai) namsi*
tui$_{31}$ ai$_{33}$ k^{h}je$_{33}$ ai$_{33}$ kă$_{31}$pa$_{31}$ ai$_{33}$ mjin$_{33}$ ai$_{3}$ nam$_{31}$si$_{31}$
sweet SFP red SFP big SFP ripe SFP fruit
'sweet red big ripe fruit(s)' (Cheung 2006:42)

d. *hkye *(ai) dui *(ai) myin *(ai) gaba *(ai) namsi*
k^{h}je$_{33}$ ai$_{33}$ tui$_{31}$ ai$_{33}$ mjin$_{33}$ ai$_{33}$ kă$_{31}$pa$_{31}$ai$_{33}$ nam$_{31}$si$_{31}$
red SFP sweet SFP ripe SFP big SFP fruit
'red sweet ripe big fruit(s)' (Cheung 2006:42)

Crosslinguistically attributive adjectives are reported to observe a rigid ordering (Cinque 1994), as illustrated below.

(19) a. *big red ball*
b. **red big ball*

In English the size APs such as *big* must precede the color APs such as *red*. This well-known fact leads Cinque (1994) to propose a universal hierarchy for the DP-related functional projections. If we assume that only one FP can be realized in Jingpo nominal domain, the random arrangement of prenominal APs and unique occurrence of postnominal adjectives can be well captured.[85]

[85] An alternative analysis, such as an adjunction account, can also be used to account for the flexible ordering of the prenominal adjectives, but such an account overly exaggerates the differences between prenominal and postnominal adjectives and fails to capture the close morphological and semantic relation between the two.

6.3 Evidence for postulating an articulated DP structure

In this section I present evidence to argue for an articulated DP structure in Jingpo. I show that Liu and Gu's (2009) analysis of the two types of demonstratives reflects a need for separate functional projections to accommodate them. Furthermore, I identify two types of functional projections that delimit the D-system in Jingpo, namely the DP_{EXT} which can be lexicalized by the object marker *hpe*, and the DP_{INT} which can be lexicalized by the singular indefinite marker *mi*, the plural definite marker *ni/-hte* or the D-type demonstratives.

6.3.1 Multiple occurrences of demonstratives

Recall the discussion in Section 3.3.2.2 that Jingpo demonstratives have both singular and plural forms, and that they behave quite differently in terms of word order. Examples are given below:

(20) a. *ndai* *n-gu* *kyin* *masum*
n$_{33}$tai$_{33}$ n$_{33}$ku$_{33}$ kjin$_{33}$ mă$_{31}$sum$_{33}$
this rice CL^{catty} three
'these three catties of rice' (Liu and Gu 2009:281)

b. *n-gu* *kyin* *masum* *ndai*
n$_{33}$ku$_{33}$ kjin$_{33}$ mă$_{31}$sum$_{33}$ n$_{33}$tai$_{33}$
rice CL^{catty} three this
'these three catties of rice' (Liu and Gu 2009:281)

c. *n-gu* *ndai* *kyin* *masum*
n$_{33}$ku$_{33}$ n$_{33}$tai$_{33}$ kjin$_{33}$ mă$_{31}$sum$_{33}$
rice this CL^{catty} three
'these three catties of rice' (Liu and Gu 2009:290)

d. *n-gu* *kyin* *ndaihte*[86]
n$_{33}$ku$_{33}$ kjin$_{33}$ n$_{33}$tai$_{33}$t^{h}e$_{33}$
rice CL^{catty} this-PL
'these catties of rice' (Liu and Gu 2009:286)

[86] Recall that the cardinal numbers are incompatible with the plural marker *ni* or *-hte*.

e.* *ndaihte* *n-gu* *kyin*
$n_{33}tai_{33}t^{h}e_{33}$ $n_{33}ku_{33}$ $kj\underline{i}n_{33}$
this-PL rice CL^{catty}
(Int.) 'these catties of rice'

f.* *n-gu* *ndaihte* *kyin*
$n_{33}ku_{33}$ $n_{33}tai_{33}t^{h}e_{33}$ $kj\underline{i}n_{33}$
rice this-PL CL^{catty}
(Int.) 'these catties of rice' (Liu and Gu 2009:281)

Liu and Gu (2009) argue against a unified syntactic analysis of demonstratives and propose that A-type demonstratives and D-type demonstratives should be distinguished. While the former syntactically behaves in a similar way as canonical adjectives and enjoys more freedom in distribution, the latter behaves more like a functional element and exhibits a relatively restricted distribution. In their view, the plural demonstratives are exclusively of the D-type and must occur on the rightmost edge of Jingpo noun phrases (20d), thus the examples in (20e) and (20f) are ungrammatical. The singular demonstratives could be either an A-type or a D-type, depending on their distribution. When it occurs at the right edge of a noun phrase, it is a D-type demonstrative (20b); when it precedes (20a) or immediately follows (20c) the head noun, it is an A-type demonstrative.

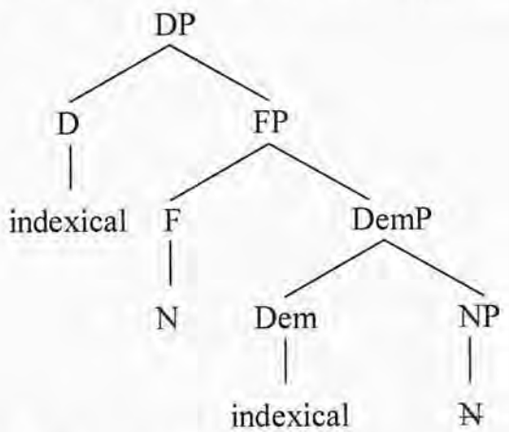
Liu and Gu (2009) also notice that Jingpo allows the so-called "demonstrative-doubling" in noun phrases, as illustrated below.

(21)a. *ndai* *mu* *ndai*
$n_{33}tai_{33}$ mu_{55} $n_{33}tai_{33}$
this thing this
'this thing' (Liu and Gu 2009: 281)

b. *ndai* *mu* *ndai* *ni*
$n_{33}tai_{33}$ mu_{55} $n_{33}tai_{33}$ ni_{33}
this thing this PL
'these things' (Liu and Gu 2009: 281)

The same kind of phenomenon has also been attested crosslinguistically, even in sign languages. Rutkowski and Czajkowska-Kisil (2009) discuss the "demonstrative-doubling" in Polish Sign Language (henceforth PJM), where the indexical that is traditionally regarded as demonstratives in sign languages sandwiched the head noun. Their work takes the "demonstrative-doubling" as an accident, resulting from two independent syntactic operations, illustrated below.

(22)



According to their analysis, the functional structure of PJM nominals can be split into three parts, a DP, a DemP and "other functional layers". The PJM indexical is base-generated in DemP, located immediately above the main NP, and moves to D due to referential reasons. It just happens to be the case both copies of the indexicals get pronounced. The postnominal position of the lower copy also results from the N-raising. One problem of applying this analysis to Jingpo is that it is not clear why the plural morpheme attached to the demonstrative cannot be "doubled".

(23) a.* *ndaihte* *mu* *ndaihte*
n$_{33}$tai$_{33}$t^{h}e$_{33}$ mu$_{55}$ n$_{33}$tai$_{33}$t^{h}e$_{33}$
this-PL thing this-PL
(Int.) 'these things'

b.* *ndai* *ni* *mu* *ndai* *ni*
n$_{33}$tai$_{33}$ ni$_{33}$ mu$_{55}$ n$_{33}$tai$_{33}$ ni$_{33}$
this PL thing this PL
(Int.) 'these things'

As illustrated in (23), the prenominal demonstratives cannot be pluralized. Let us further consider the following examples on multiple occurrences of demonstratives.

(24) a. *ndai* *nye* *a* *laika* *buk* *lahkong*
n$_{33}$tai$_{33}$ ŋje$^{?}_{55}$ a$^{?}_{31}$ lai$_{31}$ka$_{33}$ puk$_{31}$ lă$_{55}$k^{h}oŋ$_{51}$
this 1SG:GEN GEN book CL two
ndai
n$_{33}$tai$_{33}$
this
'these two books of mine' (Liu and Gu 2009:292)

b. *sara* *Yue* *a* *laika* *ndai* *buk*
să$_{31}$ʒa$_{33}$ jo$_{33}$ a$^{?}_{31}$ lai$_{31}$ka$_{33}$ n$_{33}$tai$_{33}$ puk$_{31}$
teacher Yue GEN book this CL
lahkong *ndai*
lă$_{55}$k^{h}oŋ$_{51}$ n$_{33}$tai$_{33}$
two this
'these two books of Mr. Yue's' (Liu and Gu 2009:292)

c. **ndai* *sara* *Yue* *a* *laika* *ndai*
n$_{33}$tai$_{33}$ să$_{31}$ʒa$_{33}$ jo$_{33}$ a$^{?}_{31}$ lai$_{31}$ka$_{33}$ n$_{33}$tai$_{33}$
this teacher Yue GEN book this
buk *lahkong*
puk$_{31}$ lă$_{55}$k^{h}oŋ$_{51}$
CL two
(Int.) 'these two books of Mr. Yue's' (Liu and Gu 2009:292)

As we can see from the above examples, multiple occurrences of the same type of demonstratives are disallowed. In (24c) both demonstratives are of the A-type, the resulting phrase is ill-formed; In contrast, the co-occurrence of postnominal demonstratives is well-accepted (24b) as they are of different types. The first *ndai* in (24b), immediately following the head noun *laika* 'book', is an A-type demonstrative, whereas the second instance of *ndai* is of the D-type demonstratives, occurring at the edge of the noun phrase.

Given Liu and Gu's (2009) distinction between A-type and D-type demonstratives, at least two functional projections must be postulated, dubbed

$DemP_1$ and $DemP_2$ for the time being. The former projects at the right edge of the noun phrase structure, whereas the latter is immediately above NP, roughly represented below.

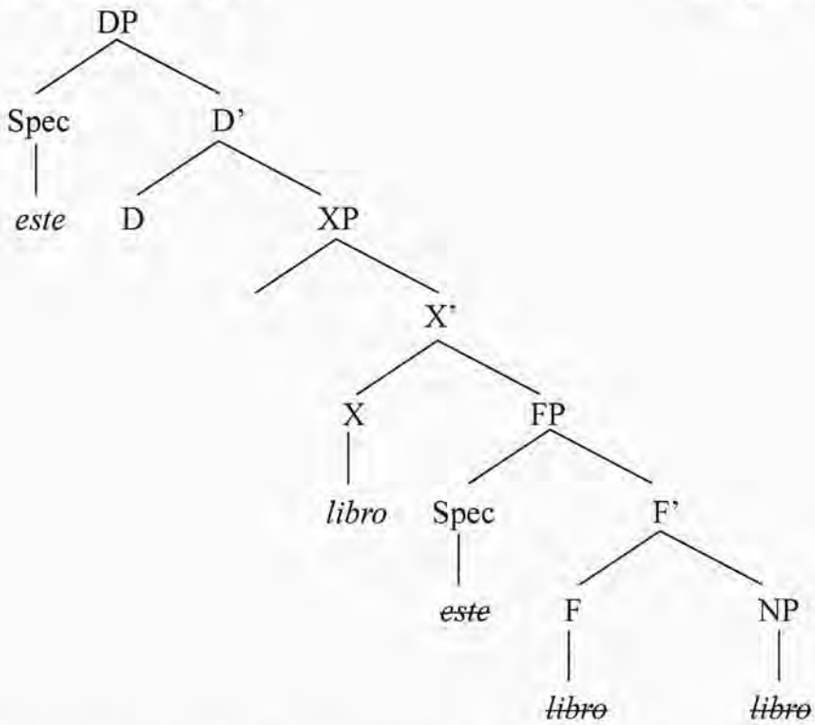
(25) [$_{DemP1}$ [$_{\#P}$ [$_{ClP}$ [$_{DemP2}$ [$_{NP}$ *sara Yue a laika*] *ndai*] *buk*] *lahkong*] *ndai(hte)*]

Brugè (1996) proposes that in Spanish the demonstrative is always generated in a low position and that at PF it can be realized either in this position (26a) or in a derived position (26b). The second option is a result of the movement of the demonstrative from its base position to [Spec, DP], roughly diagrammed in (27).

(26) a. *el libro este/ese/aquel* – Spanish
the book this/that/that
'this/that/that book' (Brugè 1996:1)

b. *este/ese/aquel libro* – Spanish
this/that/that book
'this/that/that book' (Brugè 1996:1)

(27)

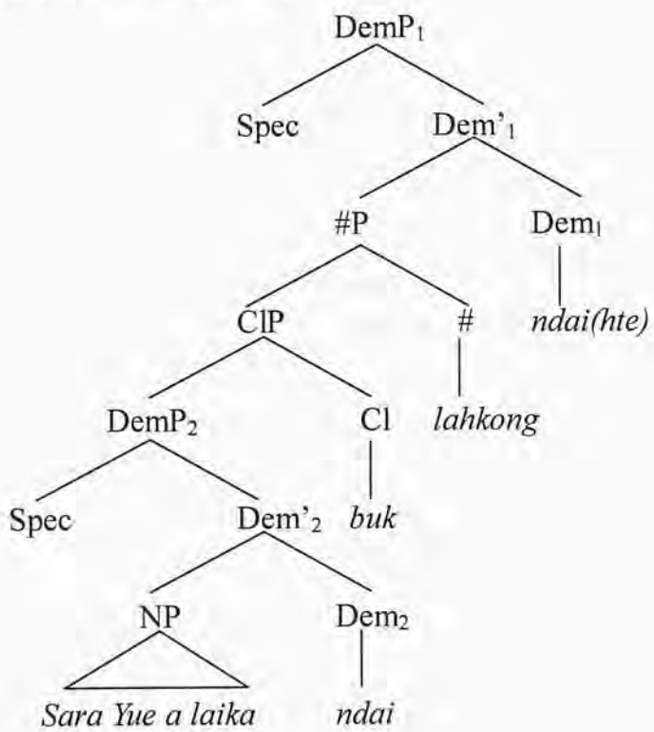


In (26a) the demonstrative *este/ese/aquel* occurs in a postnominal position; when *el* is not merged to D (26b), *este/ese/aquel* moves upward to [Spec, DP] (27) to fulfill the Economy Principle (10). Brugè's (1996) account shows that there are two

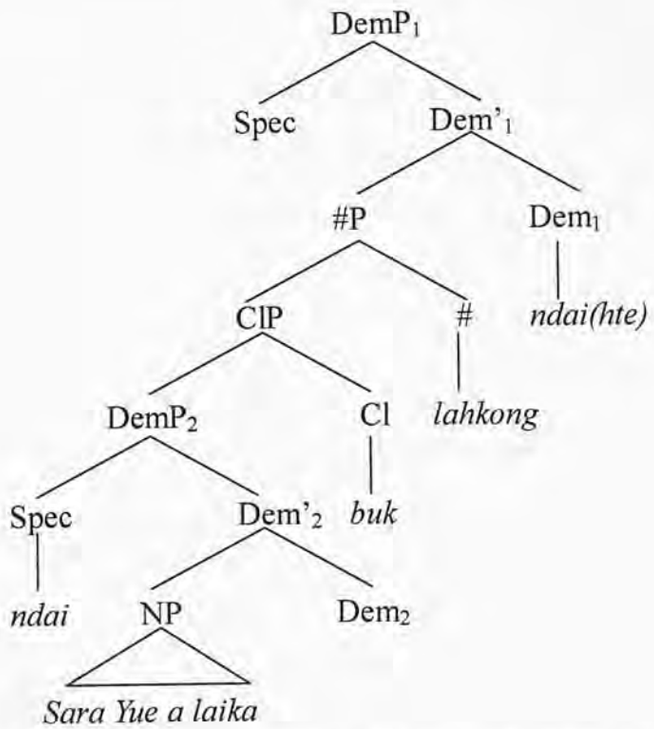
functional positions available for demonstratives. One is immediately above NP, i.e. [Spec, FP] in (27), and the other projects at the edge of the noun phrase, i.e. [Spec, DP]. Underpinned by Brugè's (1996) analysis of Spanish demonstratives, various movement accounts (Bernstein 1997, Giusti 2005, *inter alia*) have been proposed in the literature to explain the different distributional patterns of demonstratives.

The fact that the two different types of Jingpo demonstratives can occur in the same sentence shows that the two functional head positions dedicated to demonstratives can both be overtly realized in Jingpo. I assume that the D-type demonstratives and the postnominal A-type demonstratives are base-generated at the head positions of $DemP_1$ and $DemP_2$, respectively, as shown in (25) and structurally represented in (28a) below. The prenominal A-type demonstratives, on the other hand, are merged at [Spec, $DemP_2$] as in (28b).

(28)a.

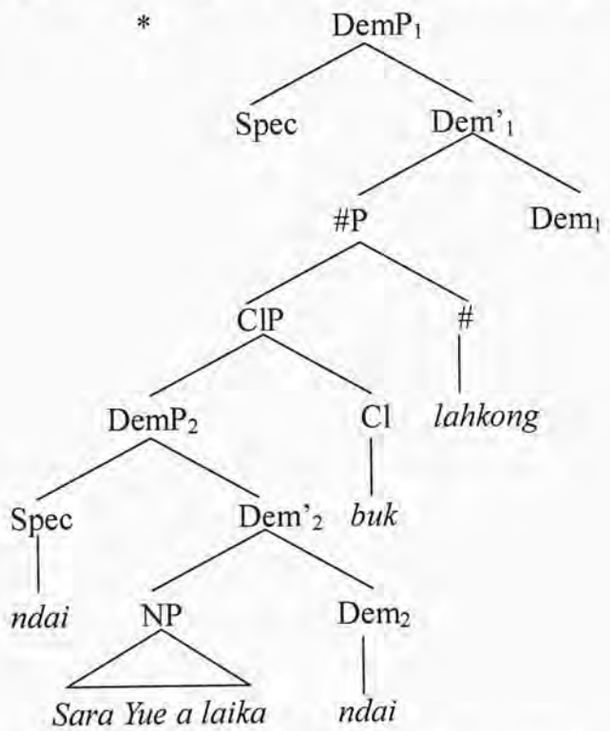


b.



Since Jingpo specifies the parameter (11) disjointly and strictly forbids the head position and the specifier position of the same functional projection to be filled at the same time, the ungrammaticality of (24c) can be structurally accounted for.

(29) *



As shown in (29), both instances of *ndai* as A-type demonstratives are merged in the specifier and head positions of $DemP_2$, violating the Economy Principle (10). In next

section I show that the A-type demonstratives do not bear the [+definite] feature; thus there is no motivation for them to move to a higher functional projection as those in Spanish do (27). In this way the different behaviors of Jingpo demonstratives and Spanish demonstratives are simply reduced to morphology.

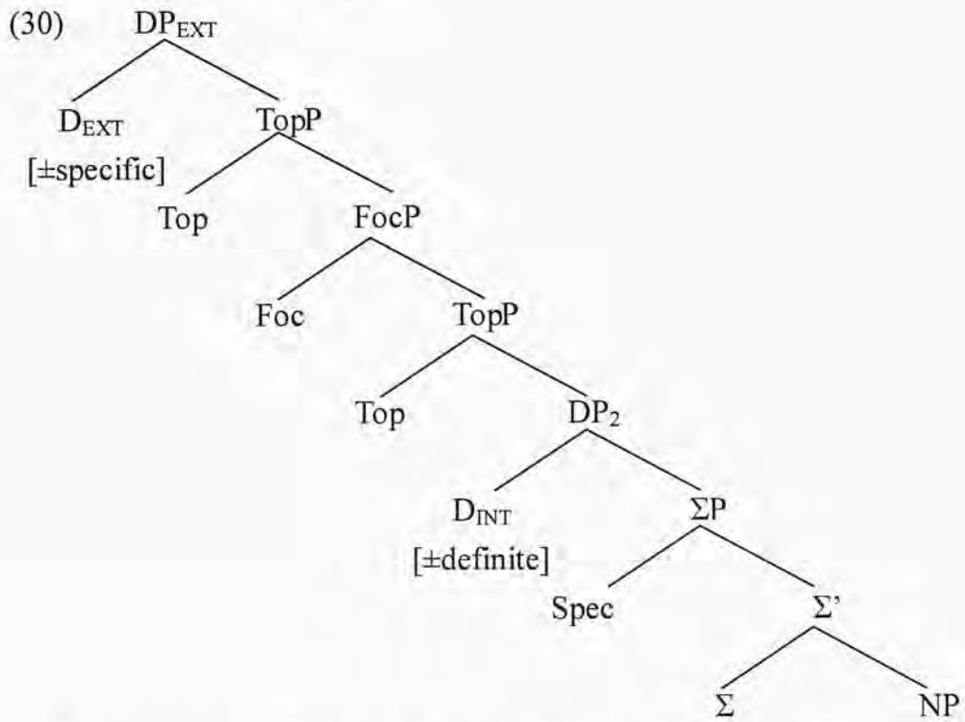
To summarize this section, the multiple occurrences of demonstratives indicate that an articulated functional make-up of Jingpo noun phrases is necessary. The demonstratives project two distinct phrases. While the D-type demonstratives are merged to the head position of $DemP_1$, the A-type demonstratives can be merged to either the specifier position or the head position of $DemP_2$. The specific parameter setting of Jingpo requires that the prenominal and postnominal A-type demonstratives not be filled at the same time. In next two subsections I further demonstrate that in Jingpo it is possible to decompose the DP into two subprojections, i.e. DP_{INT} and DP_{EXT}, respectively.

6.3.2 The internal DP layer

In Section 2.3.2.2 I have discussed the Split DP hypothesis and come up with an articulated DP structure, as diagrammed in (30) below. The two heads D_1 and D_2 delimit the D-system, analogous to Force and Fin in the clause periphery which delimit the C-system. DP_1, like ForceP, connects its internal nominal structure with the higher structure or discourse; hence they can give rise to the meaning of familiarity, specifying whether the noun has been mentioned in the previous discourse or not. DP_2 encoding definiteness in the D domain is where the definite article is usually merged. Haegeman (2004) parallels the lower D head with the Fin head of the clausal domain and claims that in the same way the finiteness anchors an event in time, the definiteness anchors a nominal reference in space. As discussed by Ihsane and Puskás (2001), the split between specificity and definiteness is necessary,

because noun phrases introduced by the definite determiner are definite but they are unnecessarily interpreted as specific.

(30)



In this section I focus on the lower DP layer, where the feature [±definite] is checked. Recall Gu's analysis of *mi* reviewed in Section 3.3.1.4. The singular marker *mi* can be regarded as the lexical manifestation of the head of DP_2 and checks the [-definite] feature, as illustrated below.

(31) a. [$_{DP2}$ [$_{\#P}$ [$_{CIP}$ [$_{NP}$ ~~laika~~] *laika*] *langai*] *mi*]

	lai$_{31}$ka$_{33}$	lă$_{55}$ŋai$_{51}$	mji$_3$
	book	one	DET$_{[-DEF]}$

'a book'

b. [$_{DP2}$ [$_{\#P}$ [$_{CIP}$ [$_{NP}$ *laika*] *buk*]] *mi*]

c. [$_{DP2}$ [$_{\#P}$ [$_{CIP}$ [$_{NP}$ *laika*] *buk*] *langai*] *mi*]

d.* [$_{DP2}$ [$_{\#P}$ [$_{CIP}$ [$_{NP}$ ~~laika~~] *laika*]] *mi*]

In (31a), no classifier is involved in the noun phrase; the noun *laika* 'book' has to move to Cl in order to be counted. The resulting count noun, merging with the cardinal number *langai*, forms a #P, which further merges with *mi* and obtains the referential property. In (31b), the head noun remains in-situ; a classifier *buk* is

merged to the head position of ClP. Since the classifier has a default number value one, the resulting ClP does not need to merge with the cardinal number one, i.e. *langai*. Of course, nothing blocks the merging of *langai* to ClP, as shown in (31c). On the other hand, without a cardinal number, (31d) is ungrammatical. This is because though both Move and Merge can help a noun to become countable, the two operations are not exactly the same. The default number value one only comes with the classifier. The N-to-Cl movement cannot automatically assign any number value to the noun phrase. Hence if a DP makes use of the N-to-Cl movement instead of merging a classifier, the numeral becomes obligatory. This accounts for the ungrammaticality of (31d).

Recall last section that the D-type demonstratives are merged to a higher functional projection above #P. Let us assume that it occupies the head position of DP_2 (see Liu and Gu 2009 for a similar analysis) and checks the [+definite] feature. It naturally follows that the D-type demonstratives and the singular indefinite marker *mi* are not compatible, as evidenced by the following examples.

(32) a. **laika* *buk* *mi* *ndai*
lai$_{31}$ka$_{33}$ puk$_{31}$ mji$_{33}$ n$_{33}$tai$_{33}$
book CL DET this
(Int.) 'a this book'

b. **laika* *buk* *ndai* *mi*
lai$_{31}$ka$_{33}$ puk$_{31}$ n$_{33}$tai$_{33}$ mji$_{33}$
book CL this DET
(Int.) 'a this book'

c. *ndai* *laika* *buk* *mi*
n$_{33}$tai$_{33}$ lai$_{31}$ka$_{33}$ puk$_{31}$ mji$_{33}$
this book CL DET
'a book here'

d. *laika* *ndai* *buk* *mi*
lai$_{31}$ka$_{33}$ n$_{33}$tai$_{33}$ puk$_{31}$ mji$_{33}$
book this CL DET

'a book here'

As shown in (32), the D-type demonstratives cannot co-occur with the singular indefinite marker *mi* (32a&b) as they do not agree with each other in terms of the feature specification [±definite]. The examples in (32c&d) are well-accepted indicating that the A-type demonstratives and the indefinite singular marker *mi* are compatible. This further demonstrates that the A-type demonstratives do not bear the [+definite] features and are hence not merged into the D-domain. They are similar to the reinforcers in Bernstein's (1997) work and only contribute the deictic information to the noun phrase.

Postulating the D-type demonstratives at the head of DP_2 naturally follows that the plural demonstratives always occur at the right side of a noun phrase, as depicted in (33).

(33) a. *n-gu* *kyin* *ndaihte*
$n_{33}ku_{33}$ $kj\underline{i}n_{33}$ $n_{33}tai_{33}t^he_{33}$
rice CL^{catty} this-PL
'these catties of rice' (Liu and Gu 2009:286)

b.* *ndaihte* *n-gu* *kyin*
$n_{33}tai_{33}t^he_{33}$ $n_{33}ku_{33}$ $kj\underline{i}n_{33}$
this-PL rice CL^{catty}
(Int.) 'these catties of rice'

c.* *n-gu* *ndaihte* *kyin*
$n_{33}ku_{33}$ $n_{33}tai_{33}t^he_{33}$ $kj\underline{i}n_{33}$
rice this-PL CL^{catty}
(Int.) 'these catties of rice' (Liu and Gu 2009:281)

Liu and Gu (2009) argue that the plural demonstratives are exclusively of the D-type, which rules out the (33b) and (33c).

Let us further assume that the morpheme *ni/-hte* is another lexical manifestation of the head D_{INT} and checks the [+definite] feature. This gives rise to the definite reading of the N-*ni* sequence, as illustrated below.

(34) a. *Tsi sara* *ni* *shi* *hpe* *tsi* *tsi*
tsi$_{31}$să$_{31}$ʒa$_{33}$ ni$_{33}$ ʃi$_{33}$ p^{h}e$^{?}$$_{55}$ tsi$_{31}$ tsi$_{31}$
doctor PL 3SG OM medicine cure
manu ni?
mă$_{55}$nu$^{?}$$_{55}ni_{51}$
SFP|COS:3PL[SUBJ]-Q
'Have the doctors cured him?' (Dai and Xu 1992:309)

b. *Woi* *ni* *hpun* *ntsa* *nna* *ga* *de*
woi$_{33}$ ni$_{33}$ p^{h}un$_{55}$ n$_{31}$tsa$_{33}$ n$_{31}$na$_{55}$ ka$_{55}$ te$^{?}$$_{31}$
monkey PL tree above from ground to
gumhton *hkrat* *masai.*
kum$_{31}$t^{h}on$_{31}$ k^{h}ʒat$_{31}$ mă$_{33}$sai$_{33}$
jump down SFP|COS:3PL[SUBJ]-DECL
'The monkeys jumped down from the tree to the ground.'
(Dai and Xu 1992:247)

c. *Nang jongma* *ni* *hpe* *atsom* *sharin shapan*
naŋ$_{33}$ tʃoŋ$_{31}$ma$_{31}$ ni$_{33}$ p^{h}e$^{?}$$_{55}$ a$_{55}$tsom$_{51}$ ʃă$_{31}$ʒin$_{55}$ʃă$_{31}$pan$_{33}$
2SG student PL OM nicely cultivate
u!
u$^{?}$$_{31}$
SFP|2SG[SUBJ]-IMP
'Please cultivate the students nicely.' (Dai and Xu 1992:202)

As reviewed in Section 3.3.1.5, Cheung (2004) analyzes the morpheme *ni/-hte* as collective markers. According to Iljic (1994), grouping, the function of collective markers, and counting, the function of cardinal numbers, are logically contradictory. The incompatibility of *ni/-hte* with a cardinal number (35) thus can be reduced to the subcategorization property of *ni/-hte* that prevents a cardinal number from merging into the head of #P.

(35) a. **jongma* *ni* *(marai)* *masum*
tʃoŋ$_{31}$ma$_{31}$ ni$_{33}$ mă$_{31}$ʒai$_{33}$ mă$_{31}$sum$_{33}$
student PL CL three
(Int.) 'the three students' (Cheung 2003a:131)

b. **gumra* *ni* *masum*
kum$_{31}$ʒa$_{31}$ ni$_{33}$ mă$_{31}$sum$_{33}$
horse PL three

(Int.) 'the three horses' (Cheung 2003a:131)

c. **hpun ni masum*
p^hun_{55} ni_{33} $mă_{31}sum_{33}$
tree PL three
(Int.) 'the three trees' (Cheung 2003a:131)

By analyzing the D-type demonstratives and the plural markers as merging into the same position, the data in (36) below can be well accounted for.

(36)a. *wa ni*
$wa^{?}_{31}$ ni_{33}
pig PL
'pigs'

b. *ndai ni*
$n_{33}tai_{33}$ ni_{33}
this PL
'these'

c. *wa ndai ni*
$wa^{?}_{31}$ $n_{33}tai_{33}$ ni_{33}
pig this PL
'these pigs' (Liu and Gu 2009:277)

d. **wa ni ndai*
$wa^{?}_{31}$ ni_{33} $n_{33}tai_{33}$
pig PL this
(Int.) 'these pigs' (Liu and Gu 2009:277)

e. **wa ni ndai ni*
$wa^{?}_{31}$ ni_{33} $n_{33}tai_{33}$ ni_{33}
pig PL this PL
(Int.) 'these pigs' (Liu and Gu 2009:277)

Though the plural marker *ni* can be attached to bare nouns (36a) and demonstratives (36b), when there is a demonstrative in a noun phrase, *ni* can only be attached to the demonstrative (36c), not the head noun (36d&e). The examples (36d) and (36e) are ruled out because both the singular D-type demonstrative *ndai* and the plural D-type demonstrative *ndai ni* are merged to the same position as *ni*.

6.3.3 The differential object marker hpe

The particle *hpe* is traditionally analyzed as an animate object marker, whose occurrence obeys the following two conditions, summarized in Gu (2004a:10).

(37) The object marker *hpe* must follow an object
  a. when both the subject and the object denote animate entities, and
  b. when the verb meaning is reversible

The particle *hpe* helps distinguish a predicative NP from an argumental NP (or DP in the latter case), which can be best illustrated in the following contrast:

(38) a. *Shi* *go* *ngai* *nau* *(*hpe)* *re.*
  ʃi$_{33}$ ko$_{31}$ ŋai$_{33}$ n̲au$_{33}$ p^{h}e$^{ʔ}_{55}$ ʒe$^{ʔ}_{51}$
  3SG TOP 1SG:GEN little brother OM COP
  'He is my little brother.' (Dai and Xu 1992:64)

  b. *Shi* *go* *ngai* *nau* **(hpe)* *mu* *ai.*
  ʃi$_{33}$ ko$_{31}$ ŋai$_{33}$ n̲au$_{33}$ p^{h}e$^{ʔ}_{55}$ mu$_{31}$ ai$_{33}$
  3SG TOP 1SG little brother OM meet SFP|3SG[SUBJ]:DECL
  'He met my little brother.'

The only difference between the above two sentences lies in that the NP *ngai nau* 'my little brother' in (38a) is predicative whereas the phrase functions as the internal argument of the main verb *mu* 'meet' in (38b). The different syntactic status of the two NPs gives rise to the contrast in grammaticality with regard to the occurrence of the particle *hpe*. In (38a), *hpe* must not appear, whereas in (38b) the presence of *hpe* is obligatory.

According to the condition (37a), *hpe* does not consistently co-occur with the object. If the object denotes an inanimate being, *hpe* is optional. Consider the following contrast:

(39) a. *Anhte* *sara* *ni* **(hpe)* *tso ra* *ga ai.*
  an$_{55}$t^{h}e$_{33}$ sǎ$_{31}$ʒa$_{33}$ ni$_{33}$ p^{h}e$^{ʔ}_{55}$ ts̲o$^{ʔ}_{55}$ ʒa$^{ʔ}_{31}$ ka$^{ʔ}_{31}$ai$_{33}$
  1PL teacher PL OM love SFP|1PL[SUBJ]-DECL
  'We love (our) teachers.' (Dai and Xu 1992:257)

b. *Anhte* *jiwoi mungdan* *(hpe)* *tso ra* *ga ai.*
an$_{55}$t^{h}e$_{33}$ ti$_{33}$wo̲i$_{33}$mun$_{55}$tan$_{33}$ p^{h}e$^{?}_{55}$ ts̲o$^{?}_{55}$ʒa$^{?}_{31}$ ka$^{?}_{31}$ai$_{33}$
1PL motherland OM love SFP|1PL[SUBJ]-DECL
'We love (our) motherland.' (Dai 1998:257)

The particle *hpe* is optional after an inanimate being *jiwoi mungan* 'motherland' in (39b), whereas it is obligatory after an animate being *sara ni* 'teachers' in (39a).

The condition (37a) may also be used to account for the optionality of *hpe* in the following sentences.

(40) a. *Gahtong* *ndai* *waloi* *latsa* *jan* *(hpe)*
kă$_{31}$t^{h}oŋ$_{31}$ n$_{33}$tai$_{33}$ wă$_{33}$loi$_{33}$ lă$_{31}$ts̲a$_{33}$ tʃan$_{55}$ p^{h}e$^{?}_{55}$
village this buffalo 100 over OM
mari *sai.*
mă$_{31}$ʒi$_{33}$ sai$_{33}$
buy SFP|COS:3SG[SUBJ]-DECL
'This village has bought over 100 buffalos.' (Dai and Xu 1992:258)

b. *Nhtu* *ndai* *shan* *(hpe)* *n* *mai* *gadoi*
n$_{31}$t^{h}u$_{33}$ n$_{33}$tai$_{33}$ ʃan$_{31}$ p^{h}e$^{?}_{55}$ n$_{33}$ mai$_{33}$ kă$_{31}$toi$_{31}$
knife this meat OM not can cut
ai.
ai$_{33}$
SFP|3SG[SUBJ]:DECL
'This knife cannot (be used to) cut meat.'

In (40a), the object *waloi latsa jan* 'over 100 buffalos' denotes animate beings but the subject *gahtong ndai* 'this village' denotes an inanimate being. In (40b), both the subject *nhtu ndai* 'this knife' and the object *shan* 'meat' denote inanimate beings. Following the condition (37a), the particle *hpe* is optional in both cases.

Note that (37a) is not the unique condition on the obligatoriness of *hpe*. According to the other condition (37b), even if both the subject and the object denote animate beings, *hpe* does not necessarily occur in the sentence unless the verb meaning is reversible.[87]

[87] The reversibility refers to the symmetrical property of verbs whereby swapping roles between subjects and

(41) a. *Wayi* *wala* **(hpe)* *gawa* *nu ai.*
wa$^{?}_{31}$ji$_{31}$ wa$^{?}_{31}$la$_{31}$ p^{h}e$^{?}_{55}$ kă$_{31}$wa$_{55}$ nu$^{?}_{55}$ai$_{33}$
female pig male pig OM bite SFP|COS:3SG[SUBJ]:3[OBJ]-DECL
'A female pig has bit a male pig.' (Dai and Xu 1992:257)

b. *Wa* *wala* *(hpe)* *sat* *u ai.*
wa$_{51}$ wa$^{?}_{31}$la$_{31}$ p^{h}e$^{?}_{55}$ sat$_{31}$ u$^{?}_{31}$ai$_{33}$
father male pig OM kill SFP|3SG[SUBJ]:3[OBJ]-DECL
'(My) father killed a male pig.' (Gu 2004a:7)

As we can see from the contrast in (41), *hpe* is obligatory in (41a) and optional in (41b) even though it is the same animate being *wala* 'male pig' that functions as the objects of both verbs. Such contrast was usually accounted for as a strategy of ambiguity avoidance. In his recent work, de Swart (2007) argues that animacy plays a very important role in recovering grammatical relations. In (41b), between both NPs *wa* 'father' and *wala* 'male pig', conceptually speaking the first one is more possible to be the agent of the main predicate *sat* 'kill', i.e. the killer. According to the speakers' world knowledge, it is more feasible for a human to kill a pig than the other way round. If the speaker wants to force the interpretation as 'a male pig killed my father', *hpe* becomes obligatory, as shown below:

(42) *Wala* *wa* **(hpe)* *sat* *u ai.*
wa$^{?}_{31}$la$_{31}$ wa$_{51}$ p^{h}e$^{?}_{55}$ sat$_{31}$ u$^{?}_{31}$ai$_{33}$
male pig father OM kill SFP|3SG[SUBJ]:3[OBJ]-DECL
'A male pig killed my father.'

In (41a), on the other hand, since both *wayi* 'female pig' and *wala* 'male pig' are equally possible to be the biter, *hpe* must occur to avoid ambiguity. In fact, without *hpe*, (41a) can have a completely different meaning, as shown in (43) below.

(43) *Wayi* *wala* *gawa* *nu ai.*
wa$^{?}_{31}$ji$_{31}$ wa$^{?}_{31}$la$_{31}$ kă$_{31}$wa$_{55}$ nu$^{?}_{55}$ai$_{33}$
female pig male pig bite SFP|COS:3SG[SUBJ]:3[OBJ]-DECL

---

objects would only lead to a change of meaning, or the directionality of the event, without affecting the grammaticality.

'A female pig and a male pig have bit (someone else).'

Since Jingpo allows *pro* drop, without *hpe* the only interpretation available for (41a) is (43) which indicates that the real object of the main verb *gawa* 'bite' is dropped.

Gu (2004a) also finds out that *hpe* is not restricted to co-occur with a theme argument. The particle can also follow arguments that bear other thematic roles, illustrated below. Note that both sentences in (44) involve three place predicates or double object constructions.

(44) a. *Tsi sara wun* *machyi masha* **(hpe)* *ana* *(e)*
tsi$_{31}$sǎ$_{31}$ʒa$_{33}$wun$_{31}$ mǎ$_{31}$tʃi$_{55}^{?}$mǎ$_{31}$ʃa$_{31}$ p^{h}e$^{?}_{55}$ a$_{31}$na$_{31}$ e$^{?}_{55}$
doctor patient OM disease OM
jep *ya* *nga* *ai.*
tʃep$_{55}$ ja$_{33}$ ŋa$_{31}$ ai$_{33}$
examine give ASP.IMPF SFP|3SG[SUBJ]:DECL
'The doctor is examining the patient of his disease.' (Gu 2004a:7)

b. *Shi* **(hpe)* *laika* *buk* *ndai* *(e)* *ya*
ʃi$_{33}$ p^{h}e$^{?}_{55}$ lai$_{31}$ka$_{33}$ puk$_{31}$ n$_{33}$tai$_{33}$ e$^{?}_{55}$ ja$_{33}$
3SG OM book CL this OM give
u!
u$^{?}_{31}$
SFP|2SG[SUBJ]:IMP
'Give this book to him' (Gu 2004a:9)

In (44a), despite the English translation, the theme argument is *ana* 'disease'. Another NP *machyi masha* 'patient' in fact bears the beneficiary θ-role. The sentence literally means 'the doctor is examining the disease for the patient'. The particle *hpe* obligatorily follows the animate NP *machyi masha* 'patient' but is optional after the inanimate NP *ana* 'disease'. In (44b), the particle *hpe* obligatorily occurs after the animate recipient *shi* 'he' but optionally follows the inanimate theme *laika buk ndai* 'this book'.

Naturally, in a construction with two objects, or with one object and one nominal adpositional phrase, if both objects denote animate beings, the particle *hpe*

has to occur twice.[88] Consider (45) below.

(45) *Nu wa* *ni* *na shong* **(hpe)* *Ma Gam* **(e)* *ya*
nu$_{51}$wa$_{51}$ ni$_{33}$ na$_{33}$ʃoŋ$_{33}$ p^{h}e$^{?}$$_{55}$ mă$_{31}$kam$_{33}$ e$^{?}$$_{55}$ ja$_{33}$
parent PL eldest sister OM Ma Gam OM give
shakau *manu ai.*
ʃă$_{31}$kau$_{33}$ mă$_{31}$nu$^{?}$$_{31}ai_{33}$
marry SFP|COS:3PL[SUBJ]:3[OBJ]-DECL
'(My) parents married (my) eldest sister to Magam.' (Gu 2004:10)

In (45) both objects *nashong* 'eldest sister' and *Ma Gam* denote animate beings, the particle *hpe* and its allomorph *e* are obligatory.

It is interesting to note that Jingpo also allows *hpe* to follow the complement clauses, as shown in the following examples:

(46) a. *Dai* *wa* *go* *[hkai nmai* *ganing di* *hkai* *na]*
tai$_{33}$ wa$_{33}$ ko$_{31}$ k^{h}ai$_{55}$n$_{55}$mai$_{51}$ kă$_{31}$niŋ$_{31}$ti$_{33}$ k^{h}ai$_{55}$ na$_{33}$
that man TOP crops how plant AUX.FUT
(hpe) *n* *chye* *u ai.*
p^{h}e$^{?}$$_{55}$ n$_{33}$ tʃe$_{33}$ u$^{?}$$_{31}ai_{33}$
OM not know SFP|3SG[SUBJ]:3[OBJ]-DECL
'That man does not know how to grow crops.' (Dai and Xu 1992:258)

b. *Nang* *[machyi* *ganing di* *sat* *shamyit* *na]*
naŋ$_{33}$ mă$_{55}$tʃi$_{51}$ kă$_{31}$niŋ$_{31}$ti$_{33}$ sat$_{31}$ ʃă$_{31}$mjit$_{55}$ na$_{33}$
2SG fly how kill eliminate AUX.FUT
(hpe) *n* *chye* *nni?*
p^{h}e$^{?}$$_{55}$ n$_{33}$ tʃe$_{33}$ n$_{31}$n$_{51}$
OM not know SFP|2SG[SUBJ]-Q
'Don't you know how to kill flies?' (Dai 1998:256 – 257)

Some may argue that the internal arguments of the above matrix verbs are not complement clauses; rather, they are headless relative clauses. I do not treat the clauses in question in this way simply because the object marker *hpe* in Jingpo is a bound morpheme and cannot stand alone without any visible host.

[88] Recall that *e* is an abbreviated form of *hpe*.

(47) a. *Shi* *go* **(ngai* *nau)* *hpe* *mu*
ʃi$_{33}$ ko$_{31}$ ŋai$_{33}$ nau$_{33}$ p^{h}e$^{?}_{55}$ mu$_{31}$
3SG TOP 1SG:GEN little brother OM meet
u ai.
u$^{?}_{31}$ai$_{33}$
SFP|3SG[SUBJ]:3[OBJ]-DECL
'He met my little brother.'

b. *Shi* *go* *mu* *u ai.*
ʃi$_{33}$ ko$_{31}$ mu$_{31}$ u$^{?}_{31}$ai$_{33}$
1SG TOP meet SFP|3SG[SUBJ]:3[OBJ]-DECL
'He met (him).'

As shown in (47a), without the host *ngai nau* 'my little brother', the sentence becomes ungrammatical. On the other hand, if the object is missing as a whole, the sentence is fine as shown in the grammatical sentence (47b), and the information about the object can be reserved by the object agreement feature encoded in the SFP *u ai* or by the context. Hence we can conclude that the object marker *hpe* always occur together with its host. It naturally follows that *hpe* cannot appear after a missing head of a headless relative clause.

From what is discussed so far, it is clear that (i) *hpe* always occurs after an object and that (ii) both the animacy of the arguments and the reversibility of the verb meaning play a decisive role in the obligatoriness of *hpe*. The main function of such a particle is to disambiguate the sentence meaning. However, we find that *hpe* is not a pure semantic marker for both conceptual and empirical reasons. Conceptually speaking, *hpe* is obligatory even in the cases where no ambiguity is involved. The presence of the agreement morpheme does not lift the obligatoriness of *hpe*. Moreover, since Jingpo always allow the optional occurrence of *hpe* after an inanimate object, it is doubtful at the very least that this particle plays any role in disambiguating the meaning of a sentence. Besides, as noted, *hpe* could appear twice in a double object construction. It is impossible for the two occurrences of *hpe* to

help distinguish the different status of the two objects. Empirically, Dai and Xu (1992:258) report that once the object gets topicalized, the use of *hpe* is preferred, regardless of the animacy and the reversibility of the verb meaning. Consider the following examples:

(48) a. *Mungdan* *makop maga* *lam* *?(hpe)* *go*
muŋ$_{55}$tan$_{33}$ mă$_{31}$kop$_{31}$mă$_{31}$ka$_{33}$ lam$_{33}$ p^{h}e$^{?}_{55}$ ko$_{31}$
country guard matter OM TOP
shangang shakang *ra* *ga ai.*
ʃă$_{31}$ŋaŋ$_{31}$ʃă$_{31}$kaŋ$_{33}$ ʒa$^{?}_{31}$ ka$^{?}_{31}$ai$_{33}$
consolidate MOD.DEN SFP|1PL[SUBJ]-DECL
'As for national defense, we need to consolidate (it).'
(Dai and Xu 1992:258)

b. *Ndai* *lam* *?(hpe)* *go* *gadai* *mung* *chye*
n$_{33}$tai$_{33}$ lam$_{33}$ p^{h}e$^{?}_{55}$ ko$_{31}$ kă$_{31}$tai$_{33}$ muŋ$_{31}$ tʃe$_{33}$
this matter OM TOP who also know
sai.
sai$_{33}$
SFP|COS-3SG[SUBJ]:DECL
'As for this matter, everyone knows (it) now.' (Dai 1998:257)

In the above two sentences, the presence of *hpe* is essential to the degree of well-formedness, even though both topicalized objects, namely *mungdan makop maga lam* 'national defense' and *ndai lam* 'this matter', denote inanimate beings. The absence of *hpe* should not result in any semantic ambiguity. The speakers can easily tell the subject from the object without the help of *hpe*. But still, *hpe* is preferred in both cases. This shows that the particle *hpe* is not required by semantics alone. What is more, the co-occurrence of the object marker *hpe* and the topic marker *go* indicates that *hpe* is part of DP, not outside of DP.

The question naturally follows is what is the status of *hpe*, besides being the animate object marker. I contend that when it is not motivated by semantics, the particle *hpe* in Jingpo is used to mark specificity (defined in Section 2.3.2.2),

indicating that the reference of the object it follows has been established in the previous discourse. This can be evidence by the naturalistic data obtained from a story-telling practice (see Appendix). When a previously-introduced noun phrase occurs in an object position, the particle *hpe* is always used.

(49) a. *Namsi* *di* *ai* *dingla* *dai* *wa* ***namsi*** ***hpun***
nam$_{31}$si$_{31}$ ti$^{?}_{31}$ ai$_{33}$ tiŋ$_{31}$la$_{33}$ tai$_{33}$ wa$_{33}$ nam$_{31}$si$_{31}$ p^{h}un$_{55}$
fruit pick SFP old man that man fruit tree
ntsa *de,* *namsi* *kalang* *bai* *di* *mat*
n$_{31}$ts$\underline{a}_{33}$ te$^{?}_{31}$ nam$_{31}$si$_{31}$ kă$_{31}$l$\underline{a}$ŋ$_{31}$ pai$_{55}$ ti$^{?}_{3}$ mat$_{31}$
top to fruit one time again pick AUX
wa *sai.*
wa$_{31}$ sai$_{33}$
ASP.INC SFP|COS:3SG[SUBJ]-DECL
'For the second time, the old man climbed up to a tree to pick fruit.'

b. ***Namsi*** ***hpun*** *?(hpe)* *lai* *kau* *da* *nna,* *namsi*
nam$_{31}$si$_{31}$ p^{h}un$_{55}$ p^{h}e$^{?}_{55}$ lai$_{31}$ k$\underline{a}$u$_{55}$ ta$_{55}$ n$_{31}$na$_{55}$ nam$_{31}$si$_{31}$
fruit tree OM pass AUX AUX after fruit
di *ton* *ai* *bai* *mu* *dat* *nu ai.*
ti$^{?}_{31}$ t$\underline{o}$n$_{31}$ ai$_{33}$ pai$_{55}$ mu$_{31}$ tat$_{31}$ nu$^{?}_{55}$ai$_{33}$
pick AUX SFP again see AUX SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'(He) had already passed the fruit tree, but then (he) saw the old man picking fruit.'

(50) a. *Shi* *agatsi sha* *rai* *nna* *makau* *hkan* *ni*
ʃi$_{33}$ a$_{55}$kă$_{31}$ts$\underline{i}_{33}$ʃa$_{31}$ ʒai$_{31}$ n$_{31}$na$_{55}$ mă$_{31}$k$\underline{a}$u$_{33}$ k^{h}an$_{55}$ ni$_{33}$
3SG quietly LV while side area PL
yu *nna,* ***namsi*** *(?hpe)* *lagu* *na* *hkyem*
ju$_{33}$ n$_{31}$na$_{55}$ nam$_{31}$si$_{31}$ p^{h}e$^{?}_{55}$ lă$_{31}$ku$_{55}$ na$_{33}$ k^{h}jem$_{55}$
see while fruit OM steal FUT AUX
dan *nu ai.*
tan$_{55}$ nu$^{?}_{55}$ai$_{33}$
AUX SFP|3SG[SUBJ]:3[OBJ]:COS-DECL
'After quietly having a look at that area, he planned to steal some fruit.'

b. *Shing rai* *shi* ***namsi*** *?(hpe)* *lago leng* *ko* *hpai*
ʃiŋ$_{31}$ʒai$_{31}$ ʃi$_{33}$ nam$_{31}$si$_{31}$ p^{h}e$^{?}_{55}$ lă$_{31}$ko$_{33}$leŋ$_{55}$ k$\underline{o}^{?}_{55}$ p^{h}ai$_{33}$
like that 3SG fruit OM bicycle in carry

mara	*nna*	*hto*	*mat*	*wa*	*sai.*	
$mă_{31}ʒa^{?}_{55}$	$n_{31}na_{55}$	$t^{h}o_{31}$	mat_{31}	wa_{31}	sai_{33}	
put	while	load	AUX	AUX	SFP|COS:3SG[SUBJ]-DECL	

'Shortly thereafter he had loaded the fruit on his bike.'

(51) a.

Lago leng	*dai*	***nlung***	*langai*	*mi*	*ko*	*wa*
$lă_{31}ko_{33}leŋ_{55}$	tai_{33}	$n_{31}luŋ_{31}$	$lă_{55}ŋai_{51}$	mji_{33}	$kō^{?}_{55}$	wa_{31}
bicycle	that	stone	one	DET	in	go

adot	*nna*	*namsi*	*ma hkra*	*ru*	*mat*
$a_{31}tot_{31}$	$n_{31}na_{55}$	$nam_{31}si_{31}$	$ma^{?}_{55}k^{h}ʒa_{31}$	$ʒu_{55}$	mat_{31}
bump	while	fruit	all	come out	AUX

sai.
sai_{33}
SFP|COS:3SG[SUBJ]:DECL

'That bike bumped into a stone and all the fruit came out.'

b.

Ma	*dai*	*adot*	*hkra*	*ai*	***nlung***	*?(hpe)*	*bai*
ma_{31}	tai_{33}	$a_{31}tot_{31}$	$k^{h}ʒa_{55}$	ai_{33}	$n_{31}luŋ_{31}$	$p^{h}e^{?}_{55}$	pai_{55}
child	that	bump	hit	SFP	stone	OM	also

hta	*gabai*	*kau*	*wa*	*sai.*
$t^{h}a^{?}_{31}$	$kă_{31}pai_{31}$	kau_{55}	wa_{31}	sai_{33}
pick	throw	AUX	AUX	SFP|COS:3SG[SUBJ]:DECL

'Those children picked up the stone which (the bike) bumped into and threw it away.'

The head nouns highlighted in the (a)-numbered examples in (49) – (51) mark their first appearance. Those in the (b)-numbered examples, on the other hand, occur in the later context. In the latter case, the use of *hpe* is always preferred. The omission of *hpe*, as indicated by the question marks, always results in an awkward utterance. In contrast, adding *hpe* to an inanimate object when it shows up in the context for the first time also leads to less acceptable sentences (50a).

The above observation suggests that besides being an animate object marker, *hpe* also adds a sense of familiarity to the noun phrase it attaches to when the noun phrase denotes an inanimate being. It functions as a specificity marker, indicating that the object has been mentioned in the previous context.

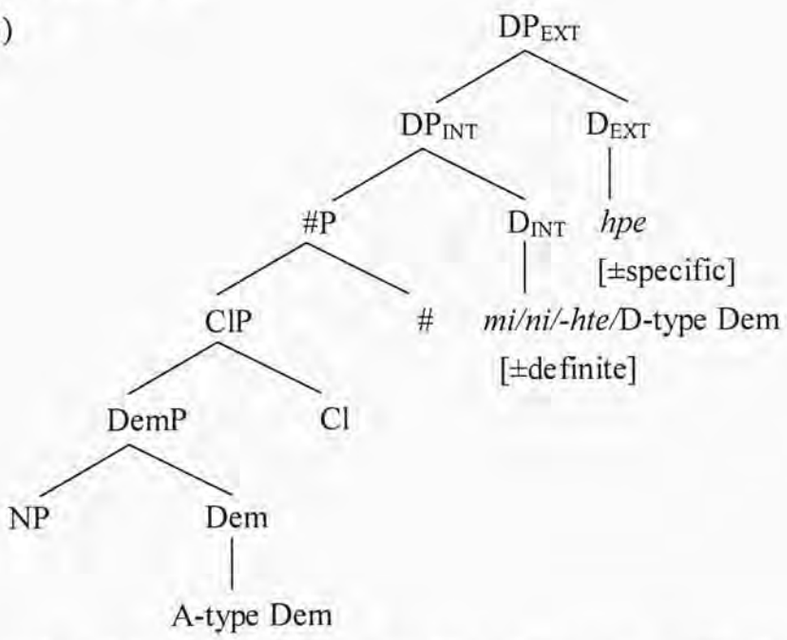
Analyzing *hpe* as a specificity marker naturally predicts its incompatibility with the generic objects, illustrated as follows.

(52)	*Ngai*	*namsi namso*	*(*hpe)*	*ra mayu*	*nngai.*
	ŋai$_{33}$	nam$_{31}$si$_{31}$nam$_{31}$so$_{33}$	p^{h}e$^{?}$$_{55}$	ʒa$^{?}$$_{31}$mă$_{31}ju_{33}$	n$_{31}$ŋai$_{33}$
	1SG	fruit-GIC	OM	like	SFP|1SG[SUBJ]-DECL
	'I like fruit.'				

Another advantage of this analysis is that it can account for the data in (48) where in the topicalized objects the addition of *hpe* is preferred. Since topics always encode the old information (Rizzi 1997), the specificity marker *hpe* and the topic marker *go* (Dai and Gu 2003) are conceptually compatible with each other.

Since *hpe* always occurs at the rightmost side of a noun phrase, following the Split-DP hypothesis reviewed in Section 2.3.2.2 whereby DP is split into at least two heads, namely D_{EXT}, marking the [±specific] feature, and D_{INT}, marking the [±definite] feature, the object marker *hpe* can be nicely accommodated in the higher DP projection. The Jingpo simplex noun phrase can hence be structurally represented as follows:

(53)



Ihsane and Puskás (2001) argue that the split between specificity and definiteness is necessary, because noun phrases introduced by the definite determiner are definite

but they are unnecessarily interpreted as specific. The two heads D_{EXT} and D_{INT} delimit the D-system, analogous to Force and Fin which delimit the C-system. DP_{EXT}, like ForceP, connects its internal nominal structure with the higher structure or discourse; hence giving rise to the meaning of familiarity, specifying whether the noun has been mentioned in the previous discourse or not. When the resultant noun phrase occurs in the object position, its head can be morphologically realized as *hpe*. DP_{INT}, on the other hand, encoding definiteness in the D domain, can be overtly realized as *mi*, marking the [-definite] feature, as *ni/-hte* or the D-type demonstratives, marking the [+definite] feature.

6.4 Concluding remarks

In this chapter I extend the cartographic approach to other domains. First I show that there are close morphological and semantic relations between preverbal adverbials and postverbal auxiliaries, and between prenominal and postnominal adjectives. This fact constitutes empirical support for Cinque's (1994, 1999) hypothesis that modifiers occupy the specifier positions of corresponding functional projections. I also investigate the multiple occurrences of different types of Jingpo demonstratives and suggest that two functional projections are needed to accommodate D-type and A-type demonstratives, respectively. The co-occurrence restriction on demonstratives of the same type is attributed to the parameter setting of Jingpo whereby the head position and the specifier position of the same functional projection cannot be filled at the same time. Finally I demonstrate that the D-system in Jingpo can be delimited by two functional heads, i.e. D_{EXT}, marking [±specific], and D_{INT}, marking [±definite]. In addition to the D-type demonstratives, I argue that the singular or plural marker which determines the definiteness of the noun phrase also heads the lowest functional projection DP_{INT} in the D-system. The

object marker *hpe* checks the specificity feature and heads DP_{EXT}, the highest projection of DP, relating its complement to a higher structure or the discourse.

Chapter 7 Conclusion

7.1 Introduction

The thesis highlights two desiderata. First, it seeks to establish the articulated structures for Jingpo clauses and noun phrases from the cartographic perspective. Second, it aims to offer analyses for a number of grammatical constructions in Jingpo, using theoretical concepts and techniques of Minimalist syntax.

The C-system in Jingpo is delimited by two functional heads, Force and Fin(ite). While the former is overtly realized as question markers *i* or *kun* in interrogative clauses, the latter provides a landing site for sentence final particles that move from T. In matrix clauses, a third functional head Evd can project, morphologically realized as evidential markers *da* or *nhten*. Many puzzling facts in Jingpo clausal domain are hence reducible to the interaction of feature checking at ForceP and EvdP, including the ordering constraint on evidential markers, the speaker- or hearer-oriented agreement marking, the agreement-shifting property of the imperative mood, and the person constraint on subjects. By so doing, the discourse related features are represented structurally and constrained by basic syntactic principles such as locality.

Likewise, the D-system in Jingpo is delimited by two functional heads, i.e. D_{EXT}, marking [±specific], and Det(erminer), marking [±definite]. The former can be overtly realized as the differential object marker *hpe*, indicating the reference of the noun phrase it attaches to has been established in the previous context. Being the structurally highest (and the linearly rightmost) projection of the nominal domain, it links its complement to a higher structure or discourse. The other head Det accommodates the singular indefinite marker *mi*, the plural definite marker *ni/-hte*.

or the D-type demonstratives, and anchors the nominal reference in space. By constructing an articulated DP structure the free distribution of Jingpo adjectives and demonstratives can be well accounted for via a non-movement-based analysis.

7.2 Recapitulation of major claims

To summarize the thesis, we have seen the following points:

i The interrogative marker *i/kun*, the evidential marker *da/nhten*, and the SFPs manifest the functional heads Force, Evd, and Fin in the CP-domain and exhibit a fixed ordering. This fact constitutes strong evidence for Rizzi's (1997) Split-CP hypothesis. Between the two views of visualizing the functional make-up of the clause periphery, namely, Cinque's (1999) hierarchy of nearly forty functional heads and Tenny's (2000) proposal of six semantic zones, the Jingpo data favor the former. Cinque's (1999) hierarchy of functional heads is not a mere coincidence, but theoretically accountable. It is possible to cast it in a feature checking theory. The same analysis can be extended to many other intriguing phenomena in Jingpo.

ii The D-system in Jingpo is delimited by two functional heads, i.e. D_{EXT}, marking [±specific], and D_{INT}, marking [±definite]. The singular indefinite marker *mi*, the plural definite marker *ni/-hte*, or the D-type demonstratives are various lexical manifestations of D_{INT}. The object marker *hpe*, on the other hand, manifests the highest functional head D_{EXT}. The multiple occurrences of demonstratives also call for an articulated structure of Jingpo noun phrases. Two functional projections are needed to accommodate the D-type demonstratives and the A-type demonstratives, respectively. The co-occurrence restriction on demonstratives of the same type is attributed to the parameter setting of Jingpo.

iii The close morphological and semantic relations between preverbal adverbials and postverbal auxiliaries, and between prenominal and postnominal adjectives constitute empirical support for Cinque's (1994, 1999) hypothesis that modifiers occupy the specifier positions of corresponding functional projections.

7.3 Future directions of research

The thesis is not intended as a consummate study of the aspects discussed, but rather as a snapshot of a larger scale research. While the analysis introduced in the thesis can explain a number of empirical puzzles, it is also by no means complete. Some syntactic issues will have to be further explored and elaborated. Those that are left open in the thesis are specified below.

The peripheral picture painted in the thesis is simplified and the discussion is limited to just a few functional projections of the C-system and the D-system. The follow-up project should include topicalization, focalization, and all sorts of pragmatic moods, etc., in order to reach the final conclusion. To name one thing, it is possible to separate pragmatic moods from projections that are responsible for syntactic interrogativity so that a distinction between interrogative (1a) and refutory (1b) usages of the *wh*-construals in Jingpo can be captured.[89]

(1) a. *Shi* *gadai* *hpe* *sa* *garum* *uta?*
ʃi$_{33}$ kă$_{31}$tai$_{33}$ p^{h}e$^{?}_{55}$ sa$_{33}$ kă$_{31}$ʒum$_{33}$ u$^{?}_{31}$ta$_{51}$
3SG who OM come/go help SFP|2SG[SUBJ]:Q
'Who does he/she come/go to help?' (Dai & Xu 1992:304)

b. *Shi* *gadai* *hpe* *mung* *n* *ko*
ʃi$_{33}$ kă$_{31}$tai$_{33}$ p^{h}e$^{?}_{55}$ muŋ$_{31}$ n$_{33}$ ko$_{51}$
3SG who OM also not respect

[89] I would like to thank my external examiner Dylan Tsai for drawing my attention to this line of research.

ai.
ai_{33}
SFP|3SG[SUBJ]:DECL
'He/She does not respect anyone.' (Dai & Xu 1992:54)

According to Speas and Tenny (2003), there are only four types of speech acts, namely, declaratives, interrogatives, imperatives, and subjunctives. In Chapter 3 I have grouped imperatives, promissives and consultatives into one type. Following the same line of reasoning, the exclamatives and the conjectures in Jingpo might not be considered as separate sentence types either. Reducing Jingpo clause types into smaller inventories is a necessary step to maintain Speas and Tenny's (2003) generalization about the grammaticalized speech acts across languages.

The agreement phenomena in Jingpo are also in need of a more in-depth syntactic analysis. Many works in the Generative literature (Boeckx 2000, Hiraiwa 2001, van Koppen 2005, Sigurðsson and Holmberg 2008, *inter alia*) focus on multiple agreement and quirky agreement, but none of these analyses can be readily applied to Jingpo. More attempts are needed to incorporate the theoretical implications arising from the agreement phenomena in Jingpo into future studies on these topics.

In Chapter 4 I have discussed the striking similarity between the emphatic mood marking and the change of state marking in Jingpo. It is interesting to investigate the observed symmetry and see how the two distinct grammatical functions are related.

I have also discussed the asymmetry between Jingpo matrix clauses and embedded clauses in terms of the inventory of SFPs and reported that many functional morphemes are restricted to the matrix clauses only. A syntactic account is needed to account for the absence of all the functional morphemes from the

embedded clauses in Jingpo.

In Chapter 6 I have extended Cinque's (1999) proposal to Jingpo and captured the close relation of auxiliaries and preverbal modifiers into a spec-head licensing configuration. A more explicit analysis of the relative ordering of various auxiliaries and preverbal modifiers in Jingpo is still necessary in order to achieve a more accurate mapping of adverbs and their licensing heads.

I hope that the thesis will initiate a solid empirical coverage and shed some light on further approach to the Jingpo syntax and also contribute to the lively discussion of the syntax of CP and DP. The remaining issues listed above by all means deserve in-depth and systematic exploration in my future work.

Appendix A Pear Story

The following story was produced when I asked one of my informants to retell the story of the Pear Story film designed by Prof. Wallace Chafe in mid-1970s. The story is about a man harvesting pears which are later stolen by a boy on a bike. The film is around six minutes long, in color, with sound effects but no lines. Its story is deliberately loose and bland to avoid imposing any cultural bias. The video can be found at the following website http://www.pearstories.org/pears_video.htm.

Lacking any lines this story makes a perfect elicitation tool especially due to the many details drawn into the illustrations, as well as the multiple participants in the story. The informant reproducing the story is a young woman (about 22 years old at the time of recording) who grew up in a mono-lingual Jingpo-speaking household and learned Mandarin Chinese in school.

(1)

Dingla	*langai*	*mi*	*namsi*	*sun*	*ko*	*namsi*
$ti\eta_{31}la_{33}$	$l\tilde{a}_{55}\eta ai_{51}$	mji_{33}	$nam_{31}si_{31}$	sun_{55}	$k\underline{o}^{?}{}_{55}$	$nam_{31}si_{31}$
old man	one	DET	fruit	garden	in	fruit

di	*nga*	*yang,*	*singga*	*lahkong*	*hpring*	*hkra*	*di*
$ti^{?}{}_{31}$	ηa_{31}	jan_{31}	$si\eta_{33}ka_{33}$	$l\tilde{a}_{55}k^{h}o\eta_{51}$	$p^{h}\text{ʒ}i\eta_{55}$	$k^{h}\text{ʒ}a_{31}$	$ti^{?}{}_{31}$
pick	ASP:IMPF	when	basket	two	full	until	pick

ton	*nu ai.*
$t\underline{o}n_{31}$	$nu^{?}{}_{55}ai_{33}$
AUX	SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'An old man was picking fruit in an orchard, and he had already filled two baskets (with fruit).'

(2)

La	*langai*	*mi*	*bainam*	*dun*	*nna*	*lai*	*wa*
la_{33}	$l\tilde{a}_{55}\eta ai_{51}$	mji_{33}	$pai_{31}nam_{33}$	tun_{55}	$n_{31}na_{55}$	lai_{31}	wa_{31}
man	one	DET	goat	pull	while	pass	ASP.INC

sai.
sai_{33}
SFP|COS:3SG[SUBJ]:DECL

'A man pulled a goat and passed by.'

(3)

Namsi	*di*	*ai*	*dingla*	*dai*	*wa*	*namsi*	*hpun*
$nam_{31}si_{31}$	$ti^{?}_{31}$	ai_{33}	$tiŋ_{31}la_{33}$	tai_{33}	wa_{33}	$nam_{31}si_{31}$	$p^{h}un_{55}$
fruit	pick	SFP	old man	that	man	fruit	tree

ntsa	*de,*	*namsi*	*kalang*	*bai*	*di*	*mat*	*wa*
$n_{31}ts\underline{a}_{33}$	$te^{?}_{31}$	$nam_{31}si_{31}$	$k\check{a}_{31}l\underline{a}ŋ_{31}$	pai_{55}	$ti^{?}_{3}$	mat_{31}	wa_{31}
top	to	fruit	one time	again	pick	AUX	ASP.INC

sai.

sai_{33}

SFP|COS:3SG[SUBJ]:DECL

'For the second time, the old man climbed up to a tree to pick fruit.'

(4)

Shi	*ntsa*	*ko*	*namsi*	*abui sha*	*di*	*nga*
$ʃi_{33}$	$n_{31}ts\underline{a}_{33}$	$k\underline{o}^{?}_{55}$	$nam_{31}si_{31}$	$a_{55}pui_{51}ʃa_{31}$	ti_{33}	$ŋa_{31}$
3SG	top	in	fruit	slowly	LV	ASP.IMPF

da *nu ai.*

ta_{55} $nu^{?}_{55}ai_{33}$

AUX SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'He was at the top, picking fruit slowly.'

(5)

La	*gasha*	*langai*	*mi*	*lago leng*	*jon*	*nna,*
la_{33}	$k\check{a}_{31}ʃa_{31}$	$l\check{a}_{55}ŋai_{51}$	mji_{33}	$l\check{a}_{31}ko_{33}leŋ_{55}$	$tʃon_{31}$	$n_{31}na_{55}$
man	child	one	DET	bicycle	ride	while

dai	*lam*	*makau*	*hku,*	*namsi*	*hpun*	*makau*	*hku*
tai_{33}	lam_{33}	$m\check{a}_{31}k\underline{a}u_{33}$	$k^{h}u_{33}$	$nam_{31}si_{31}$	$p^{h}un_{55}$	$m\check{a}_{31}k\underline{a}u_{33}$	$k^{h}u_{33}$
that	road	side	to	fruit	tree	side	to

lai	*wa*	*sai.*
lai_{31}	wa_{31}	sai_{33}
pass	ASP.INC	SFP|COS:3SG[SUBJ]:DECL

'A boy rode a bike and passed the roadside, the side of the fruit tree.'

(6)

Namsi	*hpun*	*hpe*	*lai*	*kau*	*da*	*nna,*	*namsi*
$nam_{31}si_{31}$	$p^{h}un_{55}$	$p^{h}e^{?}_{55}$	lai_{31}	$k\underline{a}u_{55}$	ta_{55}	$n_{31}na_{55}$	$nam_{31}si_{31}$
fruit	tree	OM	pass	AUX	AUX	after	fruit

di	*ton*	*ai*	*bai*	*mu*	*dat*	*nu ai.*
$ti^{?}_{31}$	$t\underline{o}n_{31}$	ai_{33}	pai_{55}	mu_{31}	tat_{31}	$nu^{?}_{55}ai_{33}$
pick	AUX	SFP	again	see	AUX	SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'(He) had already passed the fruit tree, but then (he) saw the old man picking fruit.'

(7)

Shi	*agatsi sha*	*rai*	*nna*	*makau*	*hkan*	*ni*
$ʃi_{33}$	$a_{55}kă_{31}tsi_{33}ʃa_{31}$	$ʒai_{31}$	$n_{31}na_{55}$	$mă_{31}k\underline{a}u_{33}$	$k^{h}an_{55}$	ni_{33}
3SG	quietly	LV	while	side	area	PL

yu	*nna,*	*namsi*	*lagu*	*na*	*hkyem*	*dan*
ju_{33}	$n_{31}na_{55}$	$nam_{31}si_{31}$	$lă_{31}ku_{55}$	na_{33}	$k^{h}jem_{55}$	tan_{55}
see	while	fruit	steal	FUT	AUX	AUX

nu ai.

$nu^{?}{}_{55}ai_{33}$

SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'After quietly having a look at that area, he planed to steal some fruit.'

(8)

Shing	*rai*	*shi*	*namsi*	*hpe*	*lago leng*	*ko*	*hpai*	*mara*
$ʃiŋ_{31}ʒai_{31}$		$ʃi_{33}$	$nam_{31}si_{31}$	$p^{h}e^{?}{}_{55}$	$lă_{31}ko_{33}leŋ_{55}$	$k\underline{o}^{?}{}_{55}$	$p^{h}ai_{33}$	$mă_{31}ʒa^{?}{}_{55}$
like that		3SG	fruit	OM	bicycle	in	carry	put

nna	*hto*	*mat*	*wa*	*sai.*
$n_{31}na_{55}$	$t^{h}o_{31}$	mat_{31}	wa_{31}	sai_{33}
while	load	AUX	AUX	SFP|COS:3SG[SUBJ]:DECL

'Shortly thereafter he had loaded the fruit on his bike.'

(9)

Dingla	*wa*	*mung*	*ngu ngu sha*	*dingyang*	*namsi*	*no*
$tiŋ_{31}la_{33}$	wa_{33}	$muŋ_{31}$	$ŋu^{?}{}_{55}ŋu^{?}{}_{55}ʃa_{31}$	$tiŋ_{31}jaŋ_{33}$	$nam_{31}si_{31}$	$no^{?}{}_{55}$
old man	man	also	head down	all the time	fruit	still

di	*nga*	*da*	*nu ai.*
$ti^{?}{}_{31}$	$ŋa_{31}$	ta_{55}	$nu^{?}{}_{55}ai_{33}$
pick	ASP.IMPF	AUX	SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'During the whole time the old man was immersing himself in his work.'

(10)

Num	*gasha*	*langai*	*mi*	*dai*	*namsi*	*lagu*
num_{33}	$kă_{31}ʃa_{31}$	$lă_{55}ŋai_{51}$	mji_{33}	tai_{33}	$nam_{31}si_{31}$	$lă_{31}ku_{55}$
woman	child	one	DET	that	fruit	steal

mat	*wa*	*ai*	*dai*	*wa*	*hte*	*hkrum*
mat_{31}	wa_{31}	ai_{33}	tai_{33}	wa_{33}	$t^{h}e^{?}{}_{31}$	$k^{h}ʒum_{55}$
AUX	AUX	SFP	that	man	with	meet

nu ai.

$nu^{?}{}_{55}ai_{33}$

SFP|3SG[SUBJ]:3[OBJ]:COS-DECL

'A girl came across the boy who stole the fruit.'

(11)

Lago leng	*dai*	*nlung*	*langai*	*mi*	*ko*	*wa*	*adot*
lă$_{31}$ko$_{33}$leŋ$_{55}$	tai$_{33}$	n$_{31}$luŋ$_{31}$	lă$_{55}$ŋai$_{51}$	mji$_{33}$	ko$^{?}_{55}$	wa$_{31}$	a$_{31}$tot$_{31}$
bicycle	that	stone	one	DET	in	go	bump

nna	*namsi*	*ma hkra*	*ru*	*mat*
n$_{31}$na$_{55}$	nam$_{31}$si$_{31}$	ma$^{?}_{55}$k^{h}ʒa$_{31}$	ʒu$_{55}$	mat$_{31}$
while	fruit	all	come out	AUX

sai.

sai$_{33}$

SFP|COS-3SG[SUBJ]:DECL

'That bike bumped into a stone and all the fruit came out.'

(12)

Lago	*wa*	*adot*	*machyi*	*la*	*sam*
lă$_{31}$ko$_{33}$	wa$_{31}$	a$_{31}$tot$_{31}$	mă$_{31}$tʃi$^{?}_{55}$	la$_{55}$	sam$_{55}$
foot	go	bump	hurt	AUX	AUX

sai.

sai$_{33}$

SFP|COS:3SG[SUBJ]:DECL

'(He) seemed to hurt his feet.'

(13)

Shing rai	*ma*	*masum*	*e*	*dai*	*ru*	*mat*	*ai*
ʃiŋ$_{31}$ʒai$_{31}$	ma$_{31}$	mă$_{31}$sum$_{33}$	e$_{31}$	tai$_{33}$	ʒu$_{55}$	mat$_{31}$	ai$_{33}$
like that	child	three	FOC	that	come out	AUX	SFP

namsi	*ni*	*bai*	*hta*	*bang*	*lom*	*sai.*
nam$_{31}$si$_{31}$	ni$_{33}$	pai$_{55}$	t^{h}a$^{?}_{31}$	paŋ$_{33}$	lom$_{31}$	sai$_{33}$
fruit	PL	again	collect	put	help	SFP|COS:3SG[SUBJ]:DECL

'Shortly thereafter three children helped him collect the fruit that came out.'

(14)

Shi	*goleng*	*galau*	*mat*	*ai*	*dai*	*sharot*	*la*
ʃi$^{?}_{55}$	ko$_{33}$leŋ$_{55}$	kă$_{31}$lau$_{31}$	mat$_{31}$	ai$_{33}$	tai$_{33}$	ʃă$_{31}$ʒot$_{31}$	la$_{55}$
3SG:GEN	bike	turn over	AUX	SFP	that	make stand	AUX

nna,	*ma*	*dai*	*ni*	*namsi*	*nka*	*bai*	*hpai*
n$_{31}$na$_{55}$	ma$_{31}$	tai$_{33}$	ni$_{33}$	nam$_{31}$si$_{31}$	n$_{31}$ka$^{?}_{55}$	pai$_{55}$	p^{h}ai$_{33}$
after	child	that	PL	fruit	basket	also	carry

mara	*ya*	*wa*	*nu ai.*
mă$_{31}$ʒa$^{?}_{55}$	ja$_{33}$	wa$_{31}$	nu$^{?}_{55}$ai$_{33}$
put	give	AUX	SFP|COS:3SG[SUBJ]-DECL

'After picking up his bike, those children also put the fruit basket on it.'

(15)

Ma	*dai*	*adot*	*hkra*	*ai*	*nlung*	*hpe*	*bai*	*hta*
ma_{31}	tai_{33}	$a_{31}tot_{31}$	$k^h ʒa_{55}$	ai_{33}	$n_{31}luŋ_{31}$	$p^he^ʔ_{55}$	pai_{55}	$t^ha^ʔ_{31}$
child	that	bump	hit	SFP	stone	OM	also	pick

gabai	*kau*	*wa*	*sai.*
$kă_{31}pai_{31}$	kau_{55}	wa_{31}	sai_{33}
throw	AUX	AUX	SFP|COS:3SG[SUBJ]:DECL

'Those children picked up the stone which (he) bumped into and threw it away.'

(16)

Lago	*kohton*	*rai*	*goleng*	*htu*	*wa*	*sai.*
$lă_{31}ko_{33}$	$ko^ʔ_{55}t^hon_{31}$	$ʒai_{31}$	$ko_{33}leŋ_{55}$	t^hu_{55}	wa_{31}	sai_{33}
foot	stumble	LV	bike	push	AUX	SFP|COS:3SG[SUBJ]:DECL

'(That boy) stumbled and pushed the bike forward.'

(17)

Shi	*a*	*bochyop*	*jahkrat*	*malap*	*da*	*nna,*
$ʃi^ʔ_{55}$	$a^ʔ_{31}$	$po_{33}tʃop_{55}$	$tʃă_{31}k^hʒat_{31}$	$mă_{31}lap_{31}$	ta_{55}	$n_{31}na_{55}$
3SG:GEN	GEN	hat	lose	forget	AUX	because

ma	*langai*	*mi*	*bai*	*sa*	*hkan*	*ya*	*sai.*
ma_{31}	$lă_{55}ŋai_{51}$	mji_{33}	pai_{55}	sa_{33}	k^han_{55}	ja_{33}	sai_{33}
child	one	DET	also	come/go	follow	give	SFP|COS:3SG[SUBJ]:DECL

'Because his hat was lost, one of the children went to him.'

(18)

Namsi	*lagu*	*ai*	*dai*	*wa*	*go*	*namsi*	*masum*
$nam_{31}si_{31}$	$lă_{31}ku_{55}$	ai_{33}	tai_{33}	wa_{33}	ko_{31}	$nam_{31}si_{31}$	$mă_{31}sum_{33}$
fruit	steal	SFP	that	man	TOP	fruit	three

bai	*hta*	*ya*	*rai,*	*wa*	*mat*	*sai.*
pai_{55}	$t^ha^ʔ_{31}$	ja_{33}	$ʒai_{31}$	wa_{31}	mat_{31}	sai_{33}
also	pick	give	after	go	AUX	SFP|COS:3SG[SUBJ]:DECL

'The man who stole the fruit gave three pieces of fruit to the children and went away.'

(19)

Ma	*dai*	*masum*	*shanhte*	*hpe*	*ya*	*ai*	*namsi*
ma_{31}	tai_{33}	$mă_{31}sum_{33}$	$ʃan_{55}t^he_{33}$	$p^he^ʔ_{55}$	ja_{33}	ai_{33}	$nam_{31}si_{31}$
child	that	three	3PL	OM	give	SFP	fruit

marai	*mi*	*langai ngai*	*sha*	*rai.*
$mă_{31}ʒai_{33}$	mji_{33}	$lă_{55}ŋai_{51}ŋai_{51}$	$ʃa_{55}$	$ʒai_{31}$
CL	DET	one-RED	eat	LV

'Those three children each got one of the fruit that was given to them.'

(20)

Ma	*dai*	*ni*	*namsi*	*hpun*	*makau*	*hku*	*bai*	*lai*
ma_{31}	tai_{33}	ni_{33}	$nam_{31}si_{31}$	p^hun_{55}	$mă_{31}k\underline{a}u_{33}$	k^hu_{33}	pai_{55}	lai_{31}
child	that	PL	fruit	tree	side	to	also	pass

wa	*ang*	*sai.*
wa_{31}	$aŋ_{31}$	sai_{33}
AUX	AUX	SFP|COS:3SG[SUBJ]:DECL

'Those children happened to pass by the fruit tree.'

(21)

Dingla	*dai*	*wa*	*hpun*	*ntsa*	*na*	*namsi*	*di*
$tiŋ_{31}la_{33}$	tai_{33}	wa_{33}	p^hun_{55}	$n_{31}ts\underline{a}_{33}$	na_{55}	$nam_{31}si_{31}$	$ti^{?}_{31}$
old man	that	man	tree	top	of	fruit	pick

ngut	*nna*	*yu*	*wa*	*yang,*
$ŋut_{55}$	$n_{31}na_{55}$	$ju^{?}_{55}$	wa_{31}	$jaŋ_{31}$
finish	after	get down	return	when

'That old man came down after he finished picking fruits from the tree.'

(22)

namsi	*n*	*nga*	*mat*	*ai*	*re*	*mu*	*nna*	*shaloi,*
$nam_{31}si_{31}$	n_{33}	$ŋa_{31}$	mat_{31}	ai_{33}	$ʒe_{51}$	mu_{31}	$n_{31}na_{55}$	$ʃă_{31}loi_{55}$
fruit	not	have	AUX	SFP	COP	see	after	when

'He couldn't find the fruit he picked previously.'

(23)

ma	*dai*	*ni*	*namsi*	*sha*	*nna*	*lai*	*wa*	*ang,*
ma_{31}	tai_{33}	ni_{33}	$nam_{31}si_{31}$	$ʃa_{55}$	$n_{31}na_{55}$	lai_{31}	wa_{31}	$aŋ_{31}$
child	that	PL	fruit	eat	while	pass	AUX	AUX

'Exactly at that time, those children passed by while eating the fruit.'

(24)

shi	*ganing*	*n*	*chye*	*di*	*nna,*	*mau*	*tsap*	*to*
$ʃi_{33}$	$kă_{31}niŋ_{31}$	n_{33}	$tʃ\underline{e}_{33}$	ti_{33}	$n_{31}na_{55}$	mau_{33}	$ts\underline{a}p_{55}$	$t\underline{o}_{33}$
3SG	how	not	know	do	because	shock	stand	AUX

nga	*nu ai.*
$ŋa_{31}$	$nu^{?}_{55}ai_{33}$
ASP.IMPF	SFP|COS:3SG[SUBJ]-DECL

'Because he didn't know what to do, he was standing there speechlessly.'

Bibliography

Abney, S. (1987). The English noun phrase in its sentential aspect. PhD Dissertation. Massachusetts Institute of Technology.

Aboh, E.O. (1997). On the syntax of Gungbe noun phrases. Paper presented at The 27th Annual Meeting of the African Language and Linguistics Colloquium. Leiden University.

Aboh, E.O. (2004). *The morphosyntax of complement-head sequences: clause structure and word order patterns in Kwa*. New York: Oxford University Press.

Aboh, E.O. (2010). The morphosyntax of the noun phrase. In Aboh, E., and J. Essegbey, (eds.), *Topics in Kwa Syntax* 11 – 37. Dordrecht: Springer.

Aikhenvald, A. (2004). *Evidentiality*. Oxford: Oxford University Press.

Alexiadou, A, and E. Anagnostopoulou. (1998). Parameterizing Agr: word order, V-movement, and EPP checking. *Natural Language and Linguistic Theory* 16: 491 – 539.

Alexiadou, A, L. Haegeman, and M. Stavrou. (2007). *Noun phrase in the generative perspective*. Dordrecht: Foris Publications.

Aoki, H. (1986). Evidentials in Japanese. In Chafe, W., and J. Nichols, (eds.), *Evidentiality: the linguistic coding of epistemology* 159 - 167. Norwood: Ablex Publishing.

Arsenijevic, B. (2008). A non-linear discourse representation. Ms. University of Amsterdam.

Babyonyshev, M., J. Ganger, D. Pesetsky and K. Wexler. (2001). The maturation of grammatical principles: evidence from Russian unaccusatives. *Linguistic Inquiry* 32: 1 – 44.

Baker, M.C. (1988). *Incorporation: a theory of grammatical function changing*. Chicago: University of Chicago Press.

Baker, M.C. (1996). *The polysynthesis parameter*. New York: Oxford University Press.

Baker, M.C. (2003). *Lexical categories: verbs, nouns, and adjectives*. Cambridge: Cambridge University Press.

Baker, M.C. (2008). *The syntax of agreement and concord*. Cambridge: Cambridge University Press.

Bauer, L. (2003). *Introducing linguistic morphology* (2nd edition). Edinburgh: Edinburgh University Press.

Benveniste, E. (1971). *Problems in general linguistics*. Coral Gables: University of

Miami Press.

Bernstein, J.B. (1997). Demonstratives and reinforcers in Romance and Germanic languages. *Lingua* 102: 87 – 113.

Bernstein, J.B. (2000). The DP hypothesis: identifying clausal properties in the nominal domain. In Baltin, M., and C. Collins, (eds.), *The handbook of contemporary syntactic theory* 536 – 561. Oxford: Blackwell Publishers.

Bettetti, A. (2004). Aspects of the low IP area. In Rizzi, L. (ed.), *The structure of CP and IP* 16 – 51. Oxford: Oxford University Press.

Biberauer, T., A. Holmberg, and I. Roberts. (to appear). A syntactic universal and its consequences. *Linguistic Inquiry*.

Boeckx, C. (2000). Quirky agreement. *Studia Linguistica* 54: 354 – 380.

Borer, H. (2005). *Structuring sense* (2 volumes). Oxford: Oxford University Press.

Borer, H., and K. Wexler. (1987). The maturation of syntax. In Roeper, T., and E. Williams, (eds.), *Parameter setting* 123 – 172. Dordrecht: Reidel.

Borer, H., and K. Wexler. (1992). Bi-unique relations and the maturation of grammatical principles. *Natural language and linguistic theory* 10: 147 – 189.

Borsley, R.D., and J. Kornfilt. (2000). Mixed extended projections. In Borsley, R.D., (ed.), *The nature and function of syntactic categories* 101 – 131. New York: Academic Press.

Bowers, J. (2001). Predication. In Baltin, M., and C. Collins, (eds.), *The handbook of contemporary syntactic theory* 299 – 333. Oxford: Blackwell Publishers.

Bowers, J. (2002). Transitivity. *Linguistic Inquiry* 33: 183 – 224.

Bresnan, J.W. (1972). Theory of complementation in English syntax. PhD Dissertation. Massachusetts Institute of Technology.

Brugè, L. (1996). Demonstrative movement in Spanish: a comparative approach. *University of Venice working papers in linguistics* 6: 1 – 53.

Chafe, W., and J. Nichols. (1986). *Evidentiality: the linguistic coding of epistemology*. Norwood: Ablex.

Chan, T.-Y. (2007). Sentence final particles in Jingpo. Ms. The Chinese University of Hong Kong.

Chan, T.-Y., S.-C. Kan, and Y. Gu. (2003). An investigation into the sentence final particle *sai* in Jingpo. Paper presented at the Annual Research Forum of Linguistic Society of Hong Kong. Hong Kong Polytechnic University.

Cheng, L.-S., and R. Sybesma. (1998). *Yi-wan tang, yi-ge tang*: classifiers and massifiers. *Tsing-Hua Journal of Chinese Studies* 28: 385 – 412.

Cheung, C.-H. (2003a). An investigation of the Jingpo nominal structure. MPhil thesis. The Chinese University of Hong Kong.

Cheung, C.-H. (2003b). Lun Jingpoyu de mingci duanyu jiegou [On the phrase structure of Jingpo nominals]. In Dai, Q., and Y. Gu, (eds.), *Xiandai yuyanxue lilun yu zhongguo shaoshu minzu yuyan yanjiu [Modern linguistic theory and minority languages in China]* 149 – 169. Beijing: Minzu Chubanshe.

Cheung, C.-H. (2004). The status of plural morphemes in classifier languages: an investigation of the plural morphemes in Jingpo. In Liu, F.-H., (ed.), *Proceedings of the 16th North American Conference on Chinese Linguistics* 48 – 63. University of Iowa.

Cheung, C.-H. (2006). Some speculations on the noun phrase structure of Jingpo. In Martínez, M.T., A. Alcázar, and R.M. Hernández., (eds.), *Proceedings of the 33rd Western Conference on Linguistics* 38 – 51. California State University.

Cheung, C.-H. (2007). On the noun phrase structure of Jingpo. In Shepherd, M.A., (ed.), *USC working papers in linguistics* 3: 32 – 56. University of Southern California.

Chomsky, N. (1970). Remarks on nominalization. In Jacobs, R.A., (ed.), *Readings in English transformational grammar* 184 – 221. Waltham: Ginn.

Chomsky, N. (1981). *Lectures on government and binding.* Dordrecht: Foris Publications.

Chomsky, N. (1986a). *Knowledge of language: its nature, origin, and use.* New York: Praeger.

Chomsky, N. (1986b). *Barriers.* Cambridge: The MIT Press.

Chomsky, N. (1995a). *The Minimalist Program.* Cambridge: The MIT Press.

Chomsky, N. (1995b). Bare phrase structure. In Webelhuth, G., (ed.), *Government and binding theory and the Minimalist Program: principles and parameters in syntactic theory* 383 – 440. Cambridge: Blackwell Publishers.

Chomsky, N. (2000). Minimalist inquiries: the framework. In Martin, M., D. Michaels, and J. Uriagereka, (eds.), *Step by step: essays on Minimalist syntax in honor of Howard Lasnik* 89 – 155. Cambridge: The MIT Press.

Chomsky, N. (2001). Derivation by phase. In Kenstowicz, M., (ed.), *Ken Hale: a life in language* 1 – 52. Cambridge: The MIT Press.

Chomsky, N. (2004). Beyond explanatory adequacy. In Belletti, A., (ed.), *Structures and beyond* 104 – 131. Oxford: Oxford University Press.

Chomsky, N. (2005). Three factors in language design. *Linguistic Inquiry* 36: 1 – 22.

Chomsky, N. (2007). Approaching UG from Below. In Sauerland, U., and H.M. Gärtner, (eds.), *Interfaces + recursion = language?: Chomsky's Minimalism and the view from syntax-semantics* 1 – 29. Berlin: Mouton de Gruyter.

Chomsky, N. (2008). On phases. In Freidin, R., C. Oreto, and M.L. Zubizarreta, (eds.), *Foundational issues in linguistic theory* 133 – 166. Cambridge: The MIT Press.

Cinque, G. (1994). On the evidence for partial N-movement in the Romance DP. In Cinque, G, J. Koster, J.-Y. Pollock, and L. Rizzi, (eds.), *Paths towards Universal Grammar: studies in honor of Richard S. Kayne* 85 – 110. Georgetown: Georgetown University Press.

Cinque, G. (1999). *Adverbs and functional heads: a cross-linguistic perspective*. New York: Oxford University Press.

Cinque, G. (2006). *Restructuring and functional heads*. Oxford: Oxford University Press.

Cinque, G. (2010). *The syntax of adjectives: a comparative study*. Cambridge: MIT Press.

Cinque, G., and L. Rizzi. (2009). The cartography of syntactic structures. In Heine, B., and H. Narrog, (eds.), *Oxford Handbook of Linguistic Analysis* 51 – 65. Oxford: Oxford University Press.

Cole, M. (2010). Thematic null subjects and accessibility. *Studia Linguistica* 64: 271 – 320.

Cook, V., and M. Newson. (1996). *Chomsky's Universal Grammar: an introduction* (2nd edition). Oxford: Blackwell Publishers.

Corbett, G.G. (2006). *Agreement*. Cambridge: Cambridge University Press.

Dai, Q. (1990). *Zangmian yuzu yuyan yanjiu [Research on Tibeto-Burman languages]*. Kunming: Yunnan Minzu Chubanshe.

Dai, Q. (1996). Zai lun Jingpoyu de juweici [Once again on the sentence final auxiliaries in the Jingpo language]. *Minzu Yuwen [Minority languages of China]* 1996.4: 61 – 70.

Dai, Q. (1998). *Zangmian yuzu yuyan yanjiu [Research on Tibeto-Burman languages]* Vol 2. Kunming: Yunnan Minzu Chubanshe.

Dai, Q. (1999). Jingpoyu mingci de leicheng fanchou [The categories of noun phrases in Jingpo language]. *Minzu Yuwen [Minority languages of China]* 1999.6: 9 – 17.

Dai, Q. (2003). Jingpoyu juweici xingcheng de jiegou jizhi [Structural mechanism of the sentence final auxiliaries in Jingpo language]. *Zhongyang Minzu Daxue Xuebao [Journal of the Central University for Nationalities]* 2003.2: 120 – 124.

Dai, Q. (2006). *Zangmian yuzu yuyan yanjiu [Research on Tibeto-Burman languages]* Vol 4. Beijing: Zhongyang Minzu Daxue Chubanshe.

Dai, Q. (2008). Jingpoyu weiyu rencheng biaoji de duoxuanzexing [Multiple options

in person marking on the predicate in Jingpo]. *Zhongguo Yuwen [Studies of the Chinese language]* 2008.5: 427 – 432.

Dai, Q. and L. Diehl. (2003). Jinghpo. In Thurgood, G., and R.J. LaPolla, (eds.), *The Sino-Tibetan languages* 401 – 408. New York: Routledge.

Dai, Q., and Y. Gu. (2003). Lun huati de yufa fanchou: Jingpoyu huati xingtai fenxi [On the grammatical category of topicalization: a morphological analysis of Jingpo topics]. In Dai, Q.-Y., and Y. Gu, (eds.), *Xiandai yuyanxue lilun yu zhongguo shaoshu minzu yuyan yanjiu [Modern linguistic theory and minority languages in China]* 50 – 69. Beijing: Minzu Chubanshe.

Dai, Q., and X. Xu. (1992). *The grammar of Kachin*. Beijing: Zhongyang Minzu Xueyuan Chubanshe.

Dai, Q., and X. Yue. (2005). *Jingpoyu jichu jiaocheng [An introductory course to Kachin]*. Beijing: Zhongyang Minzu Xueyuan Chubanshe.

DeLancey, S. (2008). Nocte and Jinghpaw: morphological correspondences. Paper presented at The 3rd International Conference of the Northeast Indian Linguistic Society. Gauhati University.

de Swart, P. (2007). Cross-linguistic variation in object-marking. PhD Dissertation. University of Nijmegen.

Dimitrova-Vulchanova, M., and G. Giusti. (1998). Fragments of Balkan nominal structure. In Alexiadou, A., and C. Wilder, (eds.), *Possessors, predicates and movement in the determiner phrase* 333 – 360. Amsterdam: John Benjamins Publishing Company.

Eide, K.M. (2009). Tense, finiteness and the survive principle: temporal chains in a crash-proof grammar. In Putnam, M.T., (ed.), *Towards a derivational syntax: survive-minimalism* 91 – 132. Amsterdam: John Benjamins Publishing Company.

Enç, M. (1991). The semantics of specificity. *Linguistic Inquiry* 22: 1 –25.

Endo, Y. (2007). *Locality and information structure*. Amsterdam: John Benjamins Publishing Company.

Forchheimer, P. (1953). *The category of person in language*. Berlin: Walter de Gruyter.

Fukui, N. (1986). A theory of category projection and its applications. PhD Dissertation. Massachusetts Institute of Technology.

Gärtner, H.M., and M. Steinbach. (2006). A skeptical note on the syntax of speech acts and point of view. In Brandt, P., and E. Fuss, (eds.), *Form, structure, and grammar: a festschrift presented to Günther Grewendorf on occasion of his 60th birthday* 313 – 322. Berlin: Akademie Verlag.

Giusti, G. (1997). The categorial status of determiners. In Haegeman, L. (ed.), *The*

new comparative syntax 95 – 123. Harlow: Addison Wesley Longman.

Giusti, G. (2005). At the left periphery of the Romanian noun phrase. Ms. Università Ca' Foscari di Venezia.

Greenberg, J.H. (1990 (1963)). Some universals of grammar with particular reference to the order of meaningful elements. In Denning, H., and S. Kemmer, (eds.), *On language: selected writings of Joseph H. Greenberg*, 40 – 70. Stanford: Stanford University Press.

Grimshaw, J. (1990). *Argument structure*. Cambridge: The MIT Press.

Grimshaw, J. (2005). *Words and structure*. Stanford: CSLI Publications.

Grohmann, K.K. (2003). *Prolific domains: on the anti-locality of movement dependencies*. Amsterdam: John Benjamins Publishing Company.

Gu, Y. (2004a). The grammatical function of Case marking in analytic languages: the Jingpo morpheme *hpe* as a case study. Paper presented at the 10th China's International Conference on Contemporary Linguistics. Sichuan International Studies University.

Gu, Y. (2004b). On the syntax and semantics of the Jingpo consultative mood morpheme *ga*. Paper presented at The 6th International Conference on Syntax, Semantics and Pragmatics of Tense, Mood and Aspect. University of Geneva.

Gu, Y. (2004c). Guanyu liangcixing yuyan mingcizu jiegou de ruogan wenti [Issues of the noun phrase structure in classifier languages]. In Dai, Q., (ed.), *Shuangyuxue yanjiu [Bilingual studies]* Vol 2.: 377 – 395. Beijing: Minzu Chubanshe.

Gu, Y. (2005). Complementization and the morphemes *ai/sai/na* in Jingpo. Paper presented at the Third Conference on New Reflections on Grammaticalization. Universidade de Santiago de Compostela.

Gu, Y. (2009). *Langai*, *mi* yu Jingpoyu shuming jiegou zaixi [Reanalysis on *langai*, *mi* and numeral noun phrase structure of Jingpo]. *Yuyan Kexue [Linguistic sciences]* 2009.3: 225 – 238.

Gu, Y., and Q.-Y. Dai. (2003). Dui Jingpoyu mingci+xingrongci chengfen de jiegou fenxi [A structural analysis of the Jingpo NP+A constructions]. In Dai, Q.-Y., and Y. Gu, (eds.), *Xiandai yuyanxue lilun yu zhongguo shaoshu minzu yuyan yanjiu [Modern linguistic theory and minority languages in China]* 70 – 99. Beijing: Minzu Chubanshe.

Gu, Y., and G. Gu. (2002). A further exploration on the sentence final morpheme *ga* in Jingpo. Paper presented at the Annual Research Forum of Linguistic Society of Hong Kong. University of Science and Technology.

Haegeman, L. (2004). DP-periphery and clausal periphery: possessor doubling in West Flemish. In Adger, D., C. de Cat, and G. Tsoulas, (eds.), *Peripheries:*

syntactic edges and their effects 211 – 240. Dordrecht: Kluwer Academic Publishers.

Haegeman, L. (2006). Conditionals, factives and the left periphery. *Lingua* 116: 1651 – 1669.

Haegeman, L., and J. Guéron. (1999). *English grammar: a generative perspective*. Oxford: Blackwell Publishers.

Halle, M. (1997). Distributed morphology: impoverishment and fission. In Kang, Y., and M. McGinnis, (eds.), *PF: Papers at the interface* 425 – 449. Cambridge: MIT Working Papers in Linguistics.

Halle, M., and A. Marantz. (1993). Distributed morphology and the pieces of inflection. In Hale, K., and S.J. Keyser, (eds.), *The view from building 20: essays in linguistics in honor of Sylvain Bromberger* 111 – 176. Cambridge: The MIT Press.

Halle, M., and A. Marantz. (1994). Some key features of distributed morphology. In Carnie, A., and H. Harley, (eds.), *Papers on phonology and morphology* 275 – 288. Cambridge: MIT Working Papers in Linguistics.

Harley, H., and R. Noyer. (2003). Distributed morphology. In Cheng, L., and R. Sybesma, (eds.), *The second Glot International state-of-the-article book: the latest in linguistics* 463 – 496. Berlin: Mouton de Gruyter.

Harley, H., and E. Ritter. (2002). Person and number in pronouns: a feature-geometric analysis. *Language* 78: 482 – 526.

Hellan, L. (1986). The headedness of NPs in Norwegian. In Muysken, P., and H. van Riemsdijk, (eds.), Features and projections 89 – 122. Dordrecht: Foris Publications.

Hicks, G. (2009). *Tough*-constructions and their derivation. *Linguistic Inquiry* 40: 535 – 566.

Hiraiwa, K. (2001). Multiple agree and the defective intervention constraint in Japanese. *MIT Working Papers in Linguistics* 40: 67 – 80.

Hiraiwa, K. (2005). Dimensions of symmetry in syntax: agreement and clausal architecture. PhD Dissertation. Massachusetts Institute of Technology.

Hockett, C.F. (1966). What Algonquian is really like. *International Journal of American Linguistics* 32: 59 – 73.

Hornstein, N., J. Nunes, and K.K. Grohmann. (2005). *Understanding Minimalism*. Cambridge: Cambridge University Press.

Hsieh, F.-F. (2004). Feature-specific paradigmatic correspondence and anti-homophony in Jingpo Inflectional Complex. Paper presented at the IAP workshop on the (Non)Identity with a Paradigm: Reference to phonological form, or morphosyntactic features? Massachusetts Institute of Technology.

Hsieh, F.-F. (2006). Winners take all: "Missing paradigms" in Jinghpo. In Bainbridge, E. and B. Agbayani, (eds.), *Proceedings of the 34th Western Conference on Linguistics* 196 – 207. California State University.

Huang, C.-T. (1982). Move *wh* in a language without *wh*-movement. *The Linguistic Review* 1: 369 – 416.

Huang, C.-T. (1984a). On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531 – 574.

Huang, C.-T. (1984b). Phrase structure, lexical integrity, and Chinese compounds. *Journal of the Chinese Language Teachers Association* 19: 53 – 78.

Huang, C.-T. (1989). *Pro* drop in Chinese: a generalized control theory. In Jaeggli, O., and K.J. Safir, (eds.), *The null subject parameter* 185 – 214. Dordrecht: Kluwer Academic Publishers.

Huang, C.-T. (2011). Locality in Minimalism. Lecture notes. Special Topics in Linguistics, Hong Kong.

Huang, C.-T, Y.-H. Li and Y. Li (2009). *The syntax of Chinese*. Cambridge: Cambridge University Press.

Ihsane, T. (2008). *The layered DP: form and meaning of French indefinites*. Amsterdam: John Benjamins Publishing Company.

Ihsane, T. and G. Puskás. (2001). Specific is not definite. *Generative Grammar in Geneva* 2: 39 – 54.

Iljic, R. (1994). Quantification in Mandarin Chinese: two markers of plurality. *Linguistics* 32: 91 – 116.

Jackendoff, R.S. (1972). *Semantic interpretation in generative grammar*. Cambridge: The MIT Press.

Jackendoff, R.S. (1977). *X' syntax: a study of phrase structure*. Cambridge: The MIT Press.

Jakobson, R. (1971). Shifters, verbal categories, and the Russian verb. In Jakobson, R, (ed.), *Word and language* 130 – 147. The Hague: Mouton.

Jelinek, E. (2006). The pronominal argument parameter. In Ackeman, P., P. Brandt, M. Schoorlemmer, and F. Weerman, (eds.), *Arguments and agreement* 261 – 288. Oxford: Oxford University Press.

Johannessen, J. (1996). Partial agreement and coordination. *Linguistic Inquiry* 27: 661 – 676.

Johannessen, J. (1998). *Coordination*. Oxford: Oxford University Press.

Kayne, R. (1981). Unambiguous paths. In Robert, M., and J. Koster, (eds.), *Levels of syntactic representation* 143 – 184. Dordrecht: Foris Plucations.

Kayne, R. (1984). *Connectedness and binary branching*. Dordrecht: Foris Publications.

Kayne, R.S. (1994). *The antisymmetry of syntax*. Cambridge: The MIT Press.

Laenzlinger, C. (2005). French adjective ordering: perspectives on DP-internal movement types. *Lingua* 115: 645 – 689.

LaPolla, R.J. (2003). Overview of Sino-Tibetan morphosyntax. In Thurgood, G., and R.J. LaPolla, (eds.), *The Sino-Tibetan languages* 22 – 42. New York: Routledge.

Larson, R. (1988). On the double object construction. *Linguistic Inquiry* 19: 335 – 391.

Lasnik, H., and M. Saito. (1984). On the nature of proper government. *Linguistic Inquiry* 15: 235 – 289.

Lechner, W. (2006). An interpretive effect of head movement. In Frascarelli, M. (ed.), *Phases of interpretation* 45 – 70. Berlin: Mouton de Gruyter.

Lee, Y.-F. (2003). Jingpoyu nengyuan dongci yu dongci de jiegou guanxi [The structural relation between modals and verbs in Jingpo]. In Dai, Q. and Y. Gu, (eds.), *Xiandai yuyanxue lilun yu zhongguo shaoshu minzu yuyan yanjiu [Modern linguistic theory and minority languages in China]* 170 –183. Beijing: Minzu Chubanshe.

Legate, J.A. (2008). Morphological and abstract case. *Linguistic Inquiry* 39: 55 – 101.

Li, Y. (1997). An optimized universal grammar and biological redundancies. *Linguistic Inquiry* 28: 170 – 178.

Li, Y, R. Shields, and V. Lin. (to appear). Adverb classes and the nature of Minimality. *Natural Language and Linguistic Theory*.

Li, Y.-H. (1998). Argument determiner phrases and number phrases. *Linguistic Inquiry* 29: 693 – 702.

Li, Y.-H. (1999). Plurality in a classifier language. *Journal of East Asian Linguistics* 8: 75 – 99.

Li, Y.-H., and Y.-Z. Shi. (2000). The story of *-men*. *Contemporary Linguistics* 2:27 – 36.

Liu, H. (2006). The structure of complex nominals: classifiers, possessives and relatives. PhD Dissertation. The Chinese University of Hong Kong.

Liu, H. and Y. Gu. (2009). Free and not-so-free demonstratives in Jingpo. *Journal of East Asian Linguistics* 18: 273 – 295.

Longobardi, G. (1994). Reference and proper names: a theory of N-movement in syntax and logical form. *Linguistic Inquiry* 25: 609 – 665.

Malouf, R.P. (2000). *Mixed categories in the hierarchical lexicon*. Stanford: CSLI Publications.

Manninen, S. (2005). Review of Adverbs and functional heads: a cross-linguistic

perspective. *Journal of Linguistics* 41: 452 – 457.

Marantz, A. (1995). The Minimalist program. In Webelhuth, G., (ed.), *Government and binding theory and the Minimalist program* 349 – 382. Cambridge: Blackwell Publishers.

Marantz, A. (1997). No escape from syntax: don't try morphological analysis in the privacy of your own lexicon. In Dimitriadis, A., L. Siegel, C. Surek-Clark, and A. Williams, (eds.), *Proceedings of The 21st Annual Penn Linguistics Colloquium* 201 – 225. Philadelphia: UPenn working papers in linguistics.

Marantz, A. (2007). Phases and words. In Choe, S.-H., (ed.,) *Phases in the theory of grammar* 191 – 222. Seoul: Dong In Publisher.

Matushansky, O. (2006). Head movement in linguistic theory. *Linguistic Inquiry* 37: 69 – 110.

Munn, A. (1993). Topics in the syntax and semantics of coordinate structures. PhD Dissertation. The University of Maryland.

Neeleman, A., and K. Szendröi. (2007). Radical *pro* drop and the morphology of pronouns. *Linguistic Inquiry* 38: 671 – 714.

Nikolaeva, I. (2007). *Finiteness: theoretical and empirical foundations*. Oxford: Oxford University Press.

Noyer, R.R. (1992). Features, positions, and affixes in autonomous morphological structure. PhD dissertation. Massachusetts Institute of Technology.

Ogawa, Y. (2000). *A unified theory of verbal and nominal projections*. Oxford: Oxford University Press.

Pak, M., P. Portner, and R. Zanuttini. (2004). Deriving clause types: focusing on Korean. Ms. Georgetown University.

Pak, M., P. Portner, and R. Zanuttini. (2005). What Korean promissives tell us about jussive clause types? Paper presented at Colloque de Syntaxe et Sémantique à Paris. Campus Jussieu.

Pak, M., P. Portner, and R. Zanuttini. (2006). Agreement and the subjects of jussive clauses in Korean. Ms. Georgetown University.

Panagiotidis, E.P., and K.K. Grohmann. (2009). Mixed projections: categorial switches and prolific domains. *Linguistic Analysis* 35: 141 – 161.

Pesetsky, D. (1989). *Wh*-in-situ: movement and unselective binding. In Reuland, E., and A. ter Meulen, (eds.), *The representation of (in)definiteness* 98 – 129. Cambridge: The MIT Press.

Pesetsky, D. (2000). *Phrasal movement and its kin*. Cambridge: The MIT Press.

Pesetsky, D., and E. Torrego. (2001). T-to-C movement: causes and consequences. In Kenstowicz, M., (ed.), *Ken Hale: a life in language* 355 – 426. Cambridge: The MIT Press.

Pesetsky, D., and E. Torrego. (2006). Probes, goals and syntactic categories. In Otsu, Y., (ed.), *Proceedings of the Seventh Tokyo Conference on Psycholinguistics* 25 – 60. Tokyo: Hituzi Syobo Publishing Company.

Pollock, J.-Y. (1989). Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20: 365 – 424.

Progovac, L. (2003). Structure for coordination. In Cheng, L., and R. Sybesma, *The second Glot International state-of-the-article book: the latest in linguistics* 241 – 288. Berlin: Mouton de Gruyter.

Radford, A. (2004). *Minimalist syntax: exploring the structure of English.* Cambridge: Cambridge University Press.

Ramsey, S.R. (1987). *The languages of China.* Princeton: Princeton University Press.

Rizzi, L. (1990). *Relativized Minimality.* Cambridge: The MIT Press.

Rizzi, L. (1997). The fine structure of the left periphery. In Haegeman, L., (ed.), Elements of grammar 281 – 337. Dordrecht: Kluwer Academic Publishers.

Rizzi, L. (2004). Locality and left periphery. In Belletti, A., (ed.), *Structures and beyond* 223 – 251. Oxford: Oxford University Press.

Rizzi, L. (2008). Movement, locality and cartography. Lecture notes. GLOW Linguistic Institute, Barcelona, Spain.

Roberts, I. (2008). Clitics, movement and parameters. Lecture notes. GLOW Linguistic Institute, Barcelona, Spain.

Roberts, I. (2010). *Agreement and head movement: clitics, incorporation, and defective goals.* Cambridge: The MIT Press.

Rooryck, J. (2001a). Evidentiality, Past I. *Glot International* 5: 125 – 133.

Rooryck, J. (2001b). Evidentiality, Past II. *Glot International* 5: 161 – 168.

Ross, J.R. (1967). Constraints on variables in syntax. PhD Dissertation. Massachusetts Institute of Technology.

Rutkowski, P. and M. Czajkowska-Kisil. (2009). On the functional structure of nominals in Polish Sign Language. Paper presented at The 4th International Conference on Formal Linguistics. Foreign Studies University.

Sigurðsson, H.Á. (2003). In Brandner, E., and H. Zinsmeister. (eds.) *New perspectives on case theory.* Stanford: CSLI Publications.

Sigurðsson, H.Á., and A. Holmberg. (2008). Icelandic dative intervention: person and number are separate probes. In D'Alessandro, R., S. Fischer, and G.H. Hrafnbjargarson. (eds.), *Agreement restrictions* 251 – 280. Berlin: Mouton de Gruyter.

Siloni, T. (1997). *Noun phrases and nominalizations: the syntax of DPs.* Dordrecht: Kluwer Academic Publishers.

Sio, U.-S. (2008). The encoding of referential properties in the Chinese nominal. *Language and Linguistics* 9: 101 – 126.

Speas, P. (2004). Evidentiality, logophoricity and the syntactic representation of pragmatic features. *Lingua* 114: 255 – 276.

Speas, P., and C. Tenny. (2003). Configurational Properties of Point of View Roles, in DiSciullo, A.M. (ed.), *Asymmetry in Grammar* 315 - 344. Amsterdam: John Benjamins Publishing Company.

Stowell, T. (1981). Origins of phrase structure. PhD Dissertation. Massachusetts Institute of Technology.

Stowell, T. (1989). Subjects, specifiers and X-bar theory. In Baltin, M.R., and A.S. Kroch, (eds.), *Alternative conceptions of phrase structure* 232 – 262. Chicago: University of Chicago Press.

Stowell, T. (1991). Determiners in NP and DP. In Leffel, K., and D. Bouchard, (eds.), *Views on phrase structure* 37 – 56. Dordrecht: Kluwer Academic Publishers.

Szabolcsi, A. (1987). Functional categories in the noun phrase. In Kenesei, I., (ed.), *Approaches to Hungarian* 167 – 189. Szeged: John Benjamins Publishing Company.

Szabolcsi, A. (1994). The noun phrase. In Kiefer, F., and K. Kiss, (eds.), *The syntactic structure of Hungarian* 179 – 275. San Diego: Academic Press.

Takita, K., C. Fuji, and C.-Y. Yang. (2007). *Wh*-questions in Chinese and Japanese I: anti-superiority and anti-crossing. *Nanzan Linguistics* Special Issue 1.2: 99 – 112.

Tang, C.-C. (1990a). A note on the DP analysis of the Chinese noun phrase. *Linguistics* 28: 337 – 354.

Tang, C.-C. (1990b). Chinese phrase structure and the extended X'-theory. PhD Dissertation. Cornell University.

Tang, W.-L., Y. Gu and Q. Dai. (2003). Lun Jingpoyu zhong *nga* de yufa gongneng [On the grammatical funciton of *nga* in Jingpo]. In Dai, Q. and Y. Gu, (eds.), *Xiandai yuyanxue lilun yu zhongguo shaoshu minzu yuyan yanjiu [Modern linguistic theory and minority languages in China]* 100 – 122. Beijing: Minzu Chubanshe.

Tenny, C. (2000). Core events and adverbial modification. In Tenny, C., and J. Pustejovsky, (eds.), *Events as grammatical objects* 285 – 334. Stanford: CSLI Publications.

Tenny, C. (2006). Evidentiality, experiencers, and the syntax of sentience in Japanese. *Journal of East Asian Linguistics* 15: 245 – 288.

Tenny, C. and P. Speas. (2004). The interaction of clausal syntax, discourse roles, and information structure in questions. Paper presented at Workshop on Syntax, Semantics and Pragmatics of Questions. Université Henri Poincaré.

Travis, L. (1984). Parameters and effects of word order variation. PhD Dissertation. Massachusetts Institute of Technology.

Travis, L. (1988). The syntax of adverbs. In Fekete, D., and Z. Laubitz. (eds.), *McGill working papers in linguistics: special issue on comparative Germanic syntax* 280 – 310. McGill University.

Tsai, W.-T. (1994). On economizing the theory of A' dependencies. PhD Dissertation. Massachusetts Institute of Technology.

Uriagereka, J. (1999). Multiple Spell-out. In Epstein, S.D., and N. Hornstein (eds.), *Working Minimalism* 251 – 282. Cambridge: The MIT Press.

van Koppen, M. (2005). One probe – two goals: aspects of agreement in Dutch dialects. PhD Dissertation. Leiden University.

Xu, X., J. Xiao, X. Yue, and Q. Dai. (1983). *Jinghan cidian [Kachin-Chinese Dictionary]*. Kunming: Yunnan Minzu Chubanshe.

Zwart, J.-W. (2011). Structure and order: antisymmetric Merge. In Boeckx, C. (ed.), *The Oxford handbook of Linguistic Minimalism* 95 – 117. Oxford: Oxford University Press.

Zwarts, J. (2000). Review of Adverbs and functional heads: a cross-linguistic perspective. *Notes on Linguistics* 3: 227 – 229.